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# ***the* Accident**

This novel is not a story of war. It is a story of the eight days it took a man to die after an accident at Los Alamos had subjected him to intense radiation. It is a novel which touches upon the great moral issue of our time, as seen by the physicists who are called upon to create the means of world destruction. It is a novel which should be read by all who would have a clear understanding of the fate that awaits each human being if ever uncontrolled nuclear energy is let loose upon the world.

# *the Accident*

***Dexter Masters***



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To the memory of  
LOUIS SLOTIN  
and more than one hundred thousand others



## ***Author's Note***

On August 21, 1945, about two weeks after atomic bombs were dropped on Hiroshima and Nagasaki, an accident occurred at Los Alamos, where the bombs were made. Nine months later, on May 21, 1946, another very similar accident occurred. Both involved nuclear chain reactions. So much is a matter of record, as are also a few newspaper and magazine articles and some medical reports concerning the Los Alamos accidents.

May of 1946 is a very long time ago, as measured by events, and the Los Alamos of that spring is not the Los Alamos of the present. Many who were there then have since moved away, or have come to think other things than those which then preoccupied them, or have died; and many more have gone there than have left.

This is a work of imagination about that past time, in the setting of that place as it was then, or as I have conceived it to have been.

I have made use of some factual material, but only where such material is generally known and unclassified, and I have not hesitated to shape it to my story, which is fiction and not—let me be specific—history or biography. No classified documents have been referred to and no classified information has been used knowingly. I have visited Los Alamos, but only the residential sections of the town.

Because a relatively small number of people were concerned in fact with some of the events fictitiously dealt with here—and because some of them were very well known or have become so—there may be a greater tendency than usual on the part of readers to seek living prototypes for imagined characters in this story. As to that, I must say that all the characters reflect, and are intended to reflect, whatever general knowledge I have of people, and I have obviously been affected by knowing some. It is plainly impossible to separate the processes of imagination from the general knowledge that informs them; but no individual character in my story is intended to reflect—let alone to portray or carica-

ture—any actual person, living or dead. The titles of some of the characters were held by actual individuals, and on this count I should like to make it very clear that only the titles are taken from life. A fictitious Army Post has an officer in charge, for example, just as the real Los Alamos did in 1946. But my Colonel is an imagined Colonel, precisely as my Congressman is an imagined Congressman, and my doctors are imagined doctors, and so forth.

A few references have been made to actual persons, usually in the context of well-known statements or actions (for example, Einstein's famous letter to President Roosevelt or Oppenheimer's strenuous direction of the project during the war years), where it would have been manifestly silly to alter identities.

DEXTER MASTERS

*New York, November*



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# ***the* Accident**

*"If I am not for myself, who will be? But if I am for myself alone, what do I amount to?"—Hillel*

## **PART I**

### ***Tuesday: a glow in the canyon***

#### ***I***

Going out of Santa Fe along the road that leads north, you climb steadily for two or three miles along the spine of hills, around curves carved from the sides of them, and thus out onto a flat plateau, where, although you have been climbing and were seven thousand feet up to begin with, you suddenly find yourself on the floor of a valley.

On either side of this valley road the land stretches out across fifteen miles or more to a mountain range. Stunted tree-shrubs, baked in summer, bleak in winter, figure the land in endless tufts; they are brown, it is all brown out to the grey and silver and timber shades of the mountain ranges, and yet there is a cast of green in the shrubs and ground, too, an infinitely pale cast, as though the living green of a dozen trees had been tapped and drained to colour a hundred square miles. At sunset the valley

reaches up to spots and sweeps and splashes of all colours, but sunsets are brief moments in the long days here, where time and the land alike seem to be waiting, and an Indian away from the road may sit motionless from noon until nightfall. The Indians are seldom seen from the road, or their towns either, baked and brown in the brown baked earth. In the blaze of day there is hardly anyone to be seen moving in the little towns; from the road it is a landscape without people, or, except for road runners, much of any life at all. But people are around and about, and there are many more houses than at first you notice, including houses that are not lived in any more, some of which are very old.

So it is for some miles going north.

The mountain ranges run quite parallel to each other, the road runs straight between them, and it grows on you that you are grooved and channelled, so to speak. Then, looking west, you see that the Jemez Mountains have reached up to their highest peak, and, looking east to the Sangre de Cristo range, you see Truchas Peak, the highest in all New Mexico; and at just this point a smaller road breaks out of the channel to the west. It crosses the Rio Grande, which is usually so slight a stream along here that you have scarcely paid any attention to it, and starts a slow climb out across the valley to the mountains.

Among other things, and for all that the signs of life in the landscape are small and quiet and indirect, this land has been used for a very long time. Santa Fe, indeed, is one of the oldest towns in the United States, many years older than the nation; it became a seat of government before the Pilgrims landed at Plymouth Rock, in the very year in which Henry Hudson first pushed up the river since named for him, at just about the time that Galileo began those observations which gave shape to modern science. But Santa Fe is still much younger than the little pueblos here and there along the Rio Grande, some of which are visible in panorama for a moment from the road steadily rising out of the valley. Then the road is caught and twisted by the open ends of ancient canyons reaching down from the mountains; the empty foreground of twenty miles past fills suddenly with eruptions and swellings of the mesas that are taking form; and

abruptly a blanket of trees, tall, green pines, is thrown over the canyons and the swellings. The prospect softens, the air cools, smells sharpen; over the trees, from open spots, from curves cut into the canyon walls, gleanings from the tableland behind glow brownly, shift, and disappear. The road rises, winds, curves, cuts back, runs on and up, and then the mesas shape themselves. It can be seen as the road comes up over the edge of one that there are five here, splayed out from the mountain mass beyond like the fingers of a hand sifting the sands of time, or waiting, like the outstretched hand of an idol, for a sacrifice. The road runs along the mesa, and there was once a time when you could have continued on into the mountains, or could have stopped to meditate on the immutability of things here in the shimmering quiet. Now, after a mile or so, there is a gate, and beyond the gate a city; the mountains cannot be reached from here, and unless your business here is the business of the city, you must turn round and go elsewhere.

## 2

A decade means nothing in the life of the usual city; but the city on the mesa, whose existence among the ruins of the Pueblo country was discovered with great excitement about that long ago, is not now to be recognized from what it was then. Few knew it then; those who did were not random visitors but people who had come, by secret ways, from various parts of the world to live behind the city's walls for a time; many of them left after performing tasks that they had come expressly to perform within the city; and of these a number have not gone back. But others have; they have returned, sometimes after long trips on trans-oceanic planes or liners, to take the road out from Santa Fe between the mountain ranges, across the Rio Grande, and up on to the mesa. And it is said that none of them has failed to comment on the remarkable changes that the city has undergone, even

those who have only stood silently at night in the centre of town looking down long streets that had not been there before, lined with houses and buildings that are all new.

Most of what was there in 1645, the year in which the Second World War ended and the existence of Los Alamos became known, is still there: the barrack residences, even the big wooden laboratory buildings. The hospital is still the same, a long, two-story, simply-constructed barracks painted white, in the centre of things now as then. The difference is in the enormous expansion that has taken place, swallowing up the tight little community, as compact as a pueblo, of a few years ago.

Los Alamos is now a city of about fourteen thousand people, and it will not get much bigger, for it has spread onto all five fingers of the outstretched hand. It contains filling stations, supermarkets, handsome schools and playing fields, a community center, sidewalks and lawns of real grass, a golf course, shops that sell summer furniture and gramophone records, movie houses, newspaper offices, a branch bank, and a million-dollar bridge connecting the secret laboratory buildings on one mesa with more secret laboratory buildings on another. It is now possible for people to pass each other in the streets and on the walks without recognizing each other, a thing which was possible but difficult a few years ago. There is a great deal of travel back and forth to Santa Fe or even to the little town of Espanola, fifteen miles away; and the residents of Los Alamos are familiar enough in both places to have lost their special identity.

These things have happened in a very short time; but then in 1645 Los Alamos was only two years removed from the first sounds of its construction and the first influx of its inhabitants, coming along the single road from the great centres of research, east and west, where the ceremonies necessary to the city's birth had been conducted.

In the Indian ceremonies which have been performed around Los Alamos for centuries, and are still performed in the pueblos down from the mesas, there is a transmuting moment, lost to those who do not know to watch for it, when the priest says the word that brings in the magic. The ceremonies may go on for



some time before this word is said, and may be very colourful, but they are all prologue and preparation. Then the priest says the word and from that point on everything is potent, has meaning, is to be respected and feared.

It is very much like this, as the philosopher Comte noted, with the development of man's great concepts: they proceed from the theological or fictitious stage to the metaphysical or abstract (in which the word is often formulated) and finally to the scientific or positive (in which the word is said). And it was like this with the work whose potency Los Alamos was built to secure. The ceremonies had been going on for years, in the minds of scholars the world around. In the abstractions of Danes and Germans, Englishmen, Poles, Austrians, Hungarians, Swedes, Italians, Dutchmen, Frenchmen, Americans, and Russians, the word had been formulated. And then, while scientists danced with excitement in their laboratories like priests and medicine men at a fiesta, and circled the fires of their oscilloscopes all through many nights on end, the word was said: fission. The magic was brought in, and from that point everything was potent.

In the spaces between the outstretched mesas the land dips down into washes or canyons or arroyos, some of them several hundred feet deep, all of them filled with grains and particles of lava rock which flowed here long ago, all of them dark and quiet under the mats of trees. Even in the early days of the city it was seen by the planners that, although the canyons were not possible as places for people to live, they made excellent sites for some of the more delicate types of work. The central mesa had been selected for the city because of its remoteness; but this remoteness was not enough for certain work to be done by the city-dwellers; for such work a further remoteness, from the city itself, was needed.

A road left over from earlier days, when the isolation of the country was an attraction only to campers and lovers and contemplative people of one sort or another, leads down from the rim of the central mesa through the trees to the floor of one of the

canyons, to an area not too rocky and not too rough. Here, while the big construction was being done up on the mesa, a clearing was made, and in the clearing a building was built. It had no particular character, suggested no particular function, and was notable to the eye only for being almost certainly the first building in this particular location since the beginning of the world. If others had once been here, even their ruins had vanished. And no other building was put here, only this one. It was made of concrete blocks and wood and was about forty feet in one direction and fifty in the other; one side was against the canyon wall and on the opposite side a small porch or stoop led to the only door. Although the structure's location in the canyon, several miles by road from the centre of the city, presented difficulties to the builders, the builders overcame the difficulties. They improved the road sufficiently for trucks carrying the construction materials to move over it. Later came trucks bearing desks and typewriters and filing cabinets, several long laboratory tables, and a variety of mechanical equipment, including many meters and gauges and boxes with dial faces. A short time after this the jeeps and military cars going back and forth along the road were a common sight, although there was no one to see it except the occupants of the cars.

Into the clearing, every morning, the cars came from the canyon road, sometimes singly, sometimes together, three or four of them within the space of fifteen minutes. The drivers and passengers got out and went up the stoop and through the door. Often they brought their lunches with them and did not emerge from the building until late afternoon. Often they came back at night, and the lights shone through the row of windows along one side of the building until ten or eleven, sometimes until one or two in the morning, occasionally all through the night. Sometimes the door opened and a man stepped out onto the porch, or walked down into the clearing, to stand for a few minutes, looking off into the pine and aspen trees, smoking a cigarette, or talking idly to one or another of the soldiers who were always by the door.

It was quiet at the bottom of the canyon, after the building was

put there as before; no particular noise accompanied the work that went on inside. On some of the winter days, when the trees stood cold in the sifting snow, the canyon walls echoed slightly to the rasp of metal upon metal, and from time to time a blurred, mechanical, clicking sound rose to a nervous pitch, fell to a muttering, rose, fell, and stopped. But in other seasons the dense foliage of the trees and the chattering of the birds flying in and out muffled even the routine sounds of the men's voices, of typewriters, of the door opening or closing.

In the spring, with the middle of May, brilliant green leaves shook and trembled on the grey trunks of the aspens, and at the edges of the clearing blue columbine and mountain flowers bloomed where wind or the birds had carried the seeds.

From the beginning of the silent, secret work in this building there was no letup; indeed, the work is doubtless still going on, possibly in the same building. It would be hard to say for sure. Since the existence of the city was made known, it has been possible for visitors, properly accredited, to get into it at times: friends and relatives of the inhabitants, writers with an interest in this or that, representatives of the Elks and Kiwanis, Congressmen, and so forth. But the buildings where the work is done are barred by gates within gates, by floodlights at night, and by armed guards at all times; they are not included on the city tours that the visitors are allowed to take, and visitors do not even enter the canyons. All that can be said for sure is that the work in this building, if it does go on, is not being done any more in the way it was done from the beginning until one Tuesday afternoon in May following the end of the Second World War.

### 3

On that afternoon, at about four thirty, Dr Charles Pederson stood in the doctors' conference room of the Los Alamos hospital. The conference room was at the eastern end of the long frame

building; it had two windows through which Dr Pederson could see, forty miles away across the valley of the Rio Grande, the triangular shape of Truchas Peak, and the snow line, which had receded sharply with the thaws of spring, and the saddle between Truchas and its slightly smaller twin peak to the south. He could see himself, toiling up the slope from the saddle, a lone and intrepid figure on an elemental stage. From the moment that he had made his climb to stand on the top of Truchas nine days before, Dr Pederson had been agitated with feelings, even with thoughts, too personal to be communicated, too remote from the small body of his convictions (which had always served him well enough) to be tamed and tethered by any one of them.

He had always been able to handle such feelings in the past, or, better yet, had not been especially conscious of them. The dutiful son of a secure family in a tight little Eastern suburb, Charley Pederson had been aimed like an arrow at the medical profession; his mother had pulled the bowstring, his father had greased the bow, Charley had worked dutifully, and here he was, aged twenty-eight, with a captain's commission, with the sure conviction that a year or so with history would make a valued contribution to his career, and with his mind now all confused by imponderables that he had always been able to group, label, and set aside as proper fare for college boys, suitable accompaniment to an evening of beer-drinking, inevitable obsession of New York Jews and writers and artists, but nothing to take seriously. Oh, troubled mind! Before he set off on his weekend outing—sandwiches, hot coffee, first-aid equipment, and other props and shorings in his knapsack—Dr Pederson had read two do-and-don't articles on local mountain-climbing in the Santa Fe newspaper and had taken careful note of much advice from friends, one or two of whom had made the trip. All very useful, these precautions; but the enormity of standing on top of Truchas, on top of everything, alone in the sky, the wind at his feet—no one had prepared him for that, although if anyone had undertaken to do so he would have paid no attention, not having any reason to fear that which had never bothered him.

He did not hear the nurse come into the room.

"Back to work, *mon capitaine*. Herzog is outside."

"Oh, Lord!"

"Yes," the girl said, "but he wants to see you."

"Well, I won't see him. What does he keep coming back for? Is he right outside?"

"He's standing on a box talking through the window to our patient, like it's against rules to do."

"Well, let him. Then I don't have to talk to him. You'd think he runs the place. What's he so fussed up about? It's not as though there was a war on."

"Dear Dr Pederson," the girl said, cocking her head to one side, folding her hands before her, "I've heard you say that before. You are—how you say—*un innocent*. This is an Army post. Bombs are made here. It makes some people uneasy, always excepting doctors. Doctors are so calm and collected. There, there."

It is a sweet and attractive picture that is so often presented of the young nurse, trim and true in a nicely starched uniform, and warming herself forever, like the sunflower before the sun, in the aura of the doctors. The fact is that the average nurse, who may be anything but trim, finds most doctors on the stuffy side, dull company, and inclined to posturing; the assessments of the medical profession that pass back and forth in the nurses' rooms would dent the stuffiness of doctors by the thousands, who in turn hold the view that nurses are generally ignorant, unteachable, either sexless or over-sexed, and the chief menace to their patients' health. It is true that doctors and nurses sometimes find themselves married to each other; as to that, the force of proximity cannot be denied, and the vacuum left by lost illusions and the onrush of time tends to be filled by convenience. But neither Miss Betsy Pilcher nor Dr Pederson, who stood here regarding each other, was aware of that.

Dr Pederson began to walk back and forth, in the way that Dr Septimus Steel of his medical school had walked back and forth. Miss Pilcher thought of Herzog, not so pompous, in her

opinion, as the strutting doctor, but probably not uneasy about anything except his own prerogatives. She walked to the window, swaying her hips slightly because that was the way she liked to walk.

"I suppose I have to talk to him," Dr Pederson said.

Betsy played with the cord of the window shade, waiting. (Of course he'll talk to him.) She stared at Truchas, which she had never climbed, would never climb, and had no wish to climb. But Truchas was casting spells today, or possibly Charley Pederson had left some of the witches of his worries floating by the window. At all events Betsy felt a sudden gloom; she would stay in her room tonight, possibly to cry, instead of going to the movies or the Service Club.

"I think I know how to fix him, too, this time," said Charley, still walking back and forth in the manner of Dr Septimus Steel.

The mountain sheep are sweeter but the valley sheep are fatter, I therefore deem it meetter to feed upon the latter, Betsy said to herself. The thought began with Truchas, without a doubt, but it ended with Staff Sergeant Robert Chavez, who had taught her these old and sonorous words, and much besides, and who would have taken her to the movies or to the Service Club tonight if he had not been shipped to Bikini for the bomb tests. (If he wants me to go get Herzog he can ask me, I'm no mind-reader.) If Robert had been standing on a box outside the window just then, she would have had some things to say to him.

This is all going on too long," she would have said. ("How do you mean, baby?")

"The Army and the bombs, testing new bombs and all, it's no way to live." ("Come on, baby, relax.")

"People are edgy, though, it's no way to live." ("*You're* edgy, baby, aren't you glad to see me back?")

She pressed forward against the window, and kissed him and straightened his tie, and then they went to the Service Club, while she pulled the cord of the window shade and snapped it against the window.

"Tell him to come on in, will you?" Dr Pederson said.

"But of course," Betsy replied, and she walked out of the

room. Pederson looked at her swaying hips irritably; but the irritation passed with Betsy, and he resumed his pacing.

"I'll fix him," said Charley. He chuckled. Then he ran his hand over his face, for in fact he was more nervous than amused, and embarrassed, too, because he had nothing really to be nervous about. Not so far as Herzog was concerned, Herzog being after all no more than a man, and a rather unkempt one at that. A mountain is different, which is to say (Charley said) that a man is different when the man is yourself. He was impressed by his perception, and he thought with brief contempt of Betsy Pilcher, a know-nothing and a bitch, although the word she used had startled him with its accuracy: uneasy (she said), or possibly edgy, a little edgy.

And yet the present nervousness did have to do with Herzog, or rather with what he had decided to say to Herzog. The truth of the matter was that he had no experience in dealing with these fireballs like Herzog. (?) thought Charley. Well, then, the real truth of the matter was that Dr Pederson was not a figure crucial to the functioning of this gated city; he knew little of the workings of the secret buildings, was not even allowed in most of them, would not be seriously missed if he were to leave, could instantly be replaced, and besides had been here less than a year, which meant that he was forever excluded from the private world of those who had come to settle the city and to pioneer in its great work. Whereas Herzog— Surely this explained his edginess. Did it not?

"I am most sorry to bother you, doctor," said Herzog, coming into the room, "but our patient says he hurts. Don't you think, perhaps—?"

Herzog's voice was gentle and polite, and his manner infinitely respectful. He was a small man, and his suit hung and sagged with the weight of numerous pencils, pens, and paper in various forms and covers. He stood quietly just inside the door, his head a little to one side, his arms hanging straight down, and, in one hand, what seemed to be a jar of some kind of preserves.

"Oh, Mr Herzog," Dr Pederson said (he had learned that most of the many Europeans here—all of whom were doctors of one

thing or another—preferred to be called Mr; as for the “Oh,” he had not meant to say “Oh,” he had meant to say “Ah,” but he had not yet mastered this).

“It would really be much better to take him to that hospital—Bruns Hospital?—in Santa Fe. I think it would. He does not seem to be getting better fast.”

“Now, Mr Herzog, we’ve been over all this—several times. He’s getting along perfectly well. Why don’t you just let us handle the case?”

“It is very important to have him back on the job. I think it might be well— Could you please arrange with the Santa Fe hospital?”

“No, I can’t, Mr Herzog. He’s got a perfectly simple broken leg, it’s been set, it’s mending nicely, it would be as silly—”

“I do not want to lose him from his job a day longer than has to be. It is very important.”

At any rate, Herzog’s voice made it seem important. He spoke with a kind of dogged enunciation of each syllable, and the effect was to make the whole of his sentences seem more meaningful than the sum of their parts. He looked steadily at Pederson. He moved his jar of preserves from one hand to the other, and Pederson lowered his eyes to watch the change-over. From the door, where she had been standing since Herzog had come into the room, Betsy Pilcher spoke.

“So why’s it so important? The war’s over.”

Herzog twisted round until he could see Betsy over his shoulder. He glanced at her obliquely, smiled, and then turned back to Pederson.

“There is always a degree of urgency here. It would not harm to have the Santa Fe hospital make an examination?”

“Mr Herzog—” Pederson began, but his voice broke on the “zog”; he’s nervous, thought Betsy, looking at him with more interest than usual.

“Mr Herzog—” he also started to pace again—“I haven’t been here nearly as long as you and many others. There’s a great deal I don’t know about the work. But, you know, it’s occurred to me sometimes that maybe just for that reason—you know, a



fresh, outside viewpoint—maybe just because of that I might be able to give you some pointers on how to handle your work. I'd really like to go over with you sometime and see if—well—"

He came to a stop facing Herzog; he spread his hands a little and widened his eyes inquiringly. Well, what do you know, Betsy's expression said for her. Herzog looked at Pederson for a moment, then turned his head so that he could see through the window.

"All of us are a little tightened up, aren't we?" he said at last. "I suppose it is the tests. I myself know several points of view concerning them, although perhaps one should be slow to adopt any particular point of view, considering their novelty. I think there is no danger in the tests, though—to the personnel, that is. Possibly there is some political unwisdom, right now, in such a demonstration. This is not my immediate concern, however. Here and there a little work is going on which offers some hope for other uses, peacetime uses. It is neither war nor bomb tests that Mr Matousek delays. You might say a small sector of peace. So? A little edgy, all of us, for various reasons, each to his own reason, so to speak. I leave him in your hands, yes. You are quite right. But I believe you are not cleared for my type of work, Dr Pederson. Betsy, will you give these to Mr Matousek? I forgot."

He handed Betsy the preserves, and left. After a quick look at Dr Pederson, Betsy followed. Pederson wandered over to the window again, and again stared through it.

Very few people have been on a mountaintop, except such mountaintops as have roads built up to them and refreshment stands en route; fewer still have made the trip alone, for those who climb to a mountaintop usually want and even need company to corroborate their impressions. A lone individual on a mountaintop is most likely to be a prophet, and it is significant that Moses and Zarathustra and indeed most prophets retired either to mountaintops or, what is not so different, deserts. If a man is not a prophet when he goes up to a mountaintop, he is very apt to become a prophet, at least for a while, and this was the case with Dr Pederson.

Mr Herzog will quit bothering us, he now said to himself, but

the thought hung, did not divide into further thoughts, did not leave him, but moved to one side as his eyes and mind fastened on his remembered self at the top of Truchas, the wind at his feet, his feet in snow, and before him the spread of the remarkable land of the mesas and the mountains and the canyons, the polished sky, the quiet pueblos, and the overhanging past.

For a few minutes on the mountaintop he had faced the other direction, east. From where he stood the land stretched east as far as he could see in endless plains. The separation that the mountain range made was as sharp as a wall, and when he turned back he was struck by the notion that standing there he was like a boy who had scaled a wall, and was peeking over it into mysteries, and really should be calling back to his friends on the plains below to tell them what was going on in the canyons and on the mesas. He entertained the notion long enough to visualize what he should say: "They've got their fingers on the controls of eternity down there." The plains were filled with people, all of them waiting to hear what he would say, and when he said it they looked blankly at each other, and then blankly back at him as though maybe now he would begin to make sense.

So nine days later there was this very fanciful, not to say ridiculous, notion (and the romantic phrase) knocking around in his head, making him feel like a schoolboy or a poet or at least like something other than the practical person he was. And then, after he'd looked around for a while up there on Truchas, eaten a sandwich, thrown a few stones, and listened to the unbelievably thin sound of his voice in some experimental shouts, he had remembered this thing that one of the scientists was supposed to have said just before the explosion of the test bomb at Alamogordo. He had not heard about it until after the explosion—until after the explosions at Hiroshima and Nagasaki, for that matter; it had upset him every one of the times he had thought about it since; but on the mountaintop, what an absolutely fantastic thing to think!

"I should estimate," this scientist was supposed to have said, "that there is one chance in ten nothing will happen with the bomb, and one chance in a hundred that it will ignite the atmos-

phere." The scientist was named Baillie, and Baillie was a very eminent man, a Nobel Prize winner among other things.

Pederson had come to Los Alamos in the middle of the three-week period between Alamogordo and Hiroshima. He knew no one when he came, and in the high tension of that time about the only ones he saw except in passing were the "Monday patients." These were the minor and varied casualties of the weekend camping trips, fishing trips, rock-gathering expeditions, pueblo-inspecting excursions, mountain climbs, and other such concentrated activities with which the population of Los Alamos—most of whom came from the built-up parts of the country—relieved the stresses of bad housing, water shortages, the frustrations of secrecy, the weight of the moral justifications of bomb-making, and other unnaturalnesses of life on the mesa. He met them over bruises and bandages, hearing the stories of falls and tumbles and unseen nails, and not much else. The manufactured product of Los Alamos was not discussable socially in the summer of 1945, although everyone in the city knew that big things were going on, and most of them knew what. No one said anything about them to the new doctor, and he did not know how to ask. There was no one with whom he could share his improvised notions and opinions, which took on strange and puzzling private forms while he heard others speak of the new energy in terms that were not his. About a week after the end of the war a young physicist named Louis Saxl came in to see him. Saxl was going to fly out to the shattered Japanese cities to appraise the bomb damage for the Army—"what's visible anyway," he said to Pederson with a wry smile. Pederson gave him shots, treated an infected finger, and tried out some cautious questions on his patient. After a few days Saxl invited the doctor to come round to his room for a drink. It was Saxl who had mentioned, over the drink, what Baillie had said.

"But he didn't mean that, did he?" Pederson said, stopping his glass in mid-air. "I mean, he didn't really mean it?"

"I suppose he did," Saxl said. "Yes, he meant it, Baillie being Baillie."

"Well, good God!" said Pederson, who seldom swore. "You'd

go ahead and explode a bomb that might blow up the world?"

Pederson had heard that Saxl had delivered the test bomb to Alamogordo; he had asked him about that, and Saxl had made a rather funny story of his answer; he had escorted the parts of the bomb down to the test site somewhat like a mother and somewhat like a bank messenger, and had actually received a written receipt for them from an Army colonel, just as if the bomb had been some quite ordinary parcel. Pederson asked if he could see the receipt and Saxl showed it to him; but Saxl said nothing about his work on the bomb, and gave some perfectly clear and simple descriptions of the explosion itself. Dr Pederson had come to like Louis Saxl very much in a few days. But his feelings just then, as he waited for what Saxl would say next, were a spring-board for anything.

"There were three possibilities, remember," Saxl said finally, "and I guess the only good one was that it wouldn't work at all. Some thought that's what would happen, but I don't think Baillie. What ten to one means to Baillie is probably something which, in the light of what's known, is extremely unlikely. And what a hundred to one means is a miracle, or something like that, or even more. Baillie didn't think the bomb might blow up the world, but I guess you can say he didn't exclude the possibility. I didn't either."

Pederson was appalled.

"But suppose you didn't know enough? Couldn't you have forgotten some little thing? Made a miscalculation? Couldn't that have happened?"

"Yes, it could have; there was about one chance in a hundred that could have happened, too. I think Baillie—he's not the only one, of course—I think he'd say there's one chance in a hundred of anything happening you might name."

"Please look," Saxl had said a little later. "We—I—came into this at the wrong end. We are misunderstanding each other, and for bad reasons." They were certainly misunderstanding each other; they had been talking, or rather Saxl had been talking, about quantum theory and the uncertainty principle, with references to the statistical nature of the modern physical sciences;

and Pederson was beginning to talk about—what? It was harder to put a finger on what he was talking about, but the last words he had used were “irresponsibility of self-appointed intellectual tyrannies.” He had not said them; he had muttered them, partly because he was not used to putting together so many words like that and partly because he had begun to lose his grip on what the hell they were talking about at all.

“Charley, look,” Saxl went on, “suppose you’re standing some place and somebody fires a thirteen-inch shell at you. It comes towards you, several thousand feet a second, headed right at you. If you don’t move, the consequences are almost certainly predictable. But it just might pass through you and produce no effect at all. There is a certain definite chance that this will happen—very small, but definite. Therefore you cannot exclude it. But to mention it is not to—well, it’s simply to pay a kind of tribute to possibility.”

Pederson had pondered this, and it had made him feel better. And then, in a flare of irritation, he had demanded why Baillie had said one in a hundred.

“Couldn’t he have said one in a million?”

“He was talking to physicists. If he’d been talking to someone else, he might have—or would have said what one in a hundred means to him.”

“Everybody’s not a physicist, how’s everyone to know?”

“He didn’t say it to everyone, he said it to physicists.”

It had turned out to be a reasonable point, at last, as made by a new friend who talked earnestly, without airs, and made a drink from time to time. If absolutes had disappeared under the inquiries of science, and apparently they had, why then the only rational procedure, the only procedure consistent with man’s development, was to follow where the probabilities led.

“But the science ended at Chicago, in 1642,” Pederson remembered Saxl saying, later, shortly before the evening ended. “There’s been no science to speak of out here. We manufacture a product here. What it has to do with man’s development I don’t know. Anyway I can’t say. At least I won’t. And where the probabilities of this lead—that’s something else, something for

the social scientists, politicians, philosophers, citizens, but not us physicists except as we're those too. Charley, there was a science and there is a bomb. There was peace and there has been war. There were scientists and there is and has been a great big national project, like an army. Are we talking about the same things?"

But on the mountaintop, possibly because the atmosphere was everything there, Baillie's words had echoed louder than Saxl's explanation, and one was one, Pederson decided, whether in a hundred or a billion. A question that he couldn't ask of anyone settled on Charley Pederson like a dream, like a fog, like an obdurate clinker in his eye. What meaning did life have if its obliteration could be contemplated as one possibility in anything? After a while the question took a different form. Didn't people have a responsibility to life itself, if not to other people, not to go this far? But life was having a hard time maintaining its meaning in Pederson's head just then. He walked back and forth, ate another sandwich, and threw more stones. Well, then, was this not of the nature of evil? Or worse, didn't this reduce both good and evil to a whim? But this was the question he'd started with, or nearly so, and from this he did not know where to go, except to go down from the mountaintop in the hope that he might leave his mood behind him.

Before he left he stared for a very long time directly at the mesa of Los Alamos forty miles away, for it was a kind of extra, underlying bother to him that all of the enormous work being done on the mesa was not even a point in the haze of distance, was not to be seen or suspected or sensed, was nothing. From where he stood, the whole mesa, which he knew to be full of people—people he knew, covered with buildings, and alive with the sounds of drills and generators and automobiles and calling children, was small and deserted, testifying by not so much as a glint from the declining sun that men down there had their fingers on the controls of eternity—and if the phrase was romantic and could not, of course, be mentioned, still it seemed to say what he meant.

As he looked he thought of the young man who, in a small

building in one of the canyons, just a day or two after this conversation with Saxl, had pushed one of the controls too far, and twenty days later had died from doing so. He could not move his eyes slightly enough to change their focus from the mesa to, say, the canyon in which stood the building where the young man had worked and where his friend Saxl worked, too. Four or five miles intervened, a fifteen-minute ride by car along the turning road—but nothing from the mountain or the eyes on the mountain; a margin of safety—but nothing from the mountain, it was all nothing from the eyes on the mountain.

He had come down from the mountain, but his mood had come with him. The questions not to be comprehended, let alone answered, and not even askable, stayed in his head. He was so abstracted that some of his friends noticed it, one or two of the patients even, and, of course, Betsy Pilcher, who had plugged him up with nonsense.

"You feeling nervous, irritable, run down?" she asked him.

"I am feeling perfectly OK," he said.

"You're acting two or three of those things," she said. "I feel sort of the same way myself. I'll be glad when we get past Tuesday the twenty-first."

"Why? What's that?"

"Well, Nolan, you remember, the accident that killed him was Tuesday the twenty-first of August. This month's the first one since."

"The first what? What are you talking about?"

"The first Tuesday the twenty-first since Tuesday the twenty-first of August."

"Well, so what?" he demanded, beginning to see, refusing to admit it, staring at her with exasperation.

"So nothing. I'll be glad when it's past, that's all."

"My God, you're out of your head. Are you really that superstitious? Are you really like that?"

"I'll just be glad when it's past," she had said again. "And don't give me that out-of-your-head stuff. I'm not the only one."

On the afternoon of Tuesday the twenty-first of May this knowledge hovered in Pederson's mind, suspended beside the

thought that Mr Herzog would bother him no more and Mr Matousek's broken leg would now be handled like any other broken leg, while he continued to ponder the words of Baillie, the meaning of life, and good and evil. Maundering silently at the window, now and then he flipped the window cord, and occasionally he inhabited Truchas out beyond with his remembered self. The hospital was quiet. From the walk that ran past the window a young woman, the mother of a child from whose feet Pederson had extracted four thorns the day before, waved to him. And Pederson nodded back, reflecting that from the peak of Truchas nothing had happened. The calendar on the wall embarrassed him, and he avoided it. The clock on the wall said forty minutes past four, and it occurred to him that he was waiting: for the clock to say five, when he would leave; for Betsy's nonsense to die in him; for something to happen. He remembered all those people waiting in his mind beyond the mountain wall, filling the plains with puzzlement, while he peeked over, searching the distant mesa for a meaning, but finding nothing, seeing nothing, unable even to separate the mesa from a canyon where, five miles away and nine months ago (to the day), someone had pushed the controls just slightly too far. Oh, troubled mind!

#### 4

The soldier is sitting on the porch of the building in the canyon, tilted back in his chair beside the door, alternately reading a comic book and watching a mountain cardinal flicking among the branches of the trees that ring the clearing. The bird flashes past him, banks and lifts, and disappears.

"Veda, don't look!" he reads. "That got them, all right! What happened? We knocked out their gravity equilibrator with our astral ray! Your father will be safe now, Veda, and the garden people of the meteoroid will be free again. Oh, if only the space marauders would stay away! But will they?"



The soldier lets the book fall in his lap. He looks out into the clearing, and now that the bird is gone he looks among the flowers, his glance moving among them, flicking from one patch to another. He knows what he wants to look at, but he approaches it slowly and in a roundabout way, as before. He does not know the name of the strange orange flower near the edge of the clearing a little way out from the porch, but he has come to know the flower, and as his eyes reach it he shifts in his chair and, without consciousness of doing so, he alerts his senses to the possibility of someone coming out of the building to catch him unaware. He notices now the blurred, mechanical, clicking sound, rising almost imperceptibly from moment to moment as he listens. He cannot hear it without a restiveness, for he knows enough about what goes on inside to know that the sound is a measurement of dangers, bad dangers, and all the worse because he doesn't know just what they are. But the sound is reassuring, too, for while it goes on no one will come out of the building, and so he gives himself over to looking at the flower. It is the enormously large petalled organ sticking straight out from the centre of the flower that he stares at. He has stared at it secretly many times in the several days since one of the men who works in the building pointed it out to him and asked him if it didn't make him want to go to Santa Fe. And not understanding, not having seen anything like of this before, for it is a western flower and a mountain flower, the soldier had taken so long to catch on that when he did he had to feel uncomfortable for the time he took as well as for what he learned. Even staring at it secretly, even now, it makes him feel uncomfortable, but excited, too. He has a plan that the next time he goes to Santa Fe he might pick this flower and take it in with him to give to the girl he sees there, as a joke, because she is not a girl he will ever marry.

What the dangers are that the sound measures he has never been told, has had to guess at from the accident that happened here before he came, and concerning this he knows less than he would usually like to know, but more than he wants to know at other times, of which the present is one. He knows, specifically and for a fact, because a fellow who knew Nolan told him, that

if Nolan had lived he would never have been able to have a kid, and for that matter wouldn't have been any good, kid or no kid. So whatever happens when something goes wrong, if something goes wrong, it hits where it hurts and must be a terrible thing that he has not been able to bring himself to ask about. The flower makes him think of this, and of poor Nolan and what it might be that can happen, along with Santa Fe and the girl he knows. An officer, a very strict military disciplinarian, had given it as his opinion, or was supposed to have, that Nolan deserved no better than he got, because he had violated very important rules in being down in the building alone and wasn't supposed to be performing the experiment at all. But, looking at the flower, the soldier feels sorry for this poor Nolan and wonders what really does go on inside, where now, he senses, the clicking sound has become a rasp, high and steady, and louder—it occurs to him so sharply that he forgets the flower and straightens in his chair—than he has ever heard it in the three months that he has been coming down here to sit by the door.

The sound frightens him, for what can happen for sure, even though the walls are thick? He gets up from the chair and stands away from the door, at the edge of the small porch. He is standing there, listening, waiting for something, as a voice comes up out of the rasping sound and mounts above it, a cry—"Louieeeeeee!" And out of the shrill, trailing stretch of the cry blooms a crash, sudden, sharp, brief, breaking off at once under silence rolling from the building like a wave. The soldier's flesh is pimply; he is half crouching, his head drawn in, his shoulders hunched, his hands between his legs pressed tight, a shield himself against himself, for in the building all is quiet, the walls stand, the porch is clear, and the flowers that edge the clearing gently sway in a normal breeze. Yet something is very wrong; the soldier knows it; it is only that the danger was not here where the protection, the ridiculous protection, was.

So in a fraction of a moment he runs forward, his training swelling up within him; and pulls open wide the door. All seven of the men he knows to be in the big, cluttered main room are standing there, all whole; his eyes take them in, his mind records

them, and relief touches him like a fairy's wand in a picture book. But none of them moves, no one turns to look at him, each stands motionless as though he has a part to play in a game of Living Statues. Six of them, rooted here and there about the room, are looking at the seventh, who the soldier sees is Louis Saxl, the one in charge. Saxl is standing farthest from the door, although still some feet back from the main table, with a rubble of scientific things on it, under gauges and meters, at the far end of the room. He is standing with his head down and with his hands before him, one over the other, and he looks not unlike a teacher who has been speaking to a class and has stopped for a moment to reflect on a complicated point. No one moves, and the soldier's flesh goes pimply again, worse than before; it seems to him that the room itself is trembling, and the air seems filled with a slow sighing, which his ears tell him is the heavy breathing of the men standing, and his own, too, but it seems a sigh.

There is finally a movement. Saxl turns. He looks from one man to another, and at the soldier, with an expression which seems more contemplative than anything else. He turns altogether away from the table and takes a step forward, and then stops. He says: "I'll give Charley Pederson a call," and then he looks round again at the men.

Several of the men offer to make this call, but Saxl says he will make it. He walks across the room to where the phone is; he still holds his hands a little in front of him and out from his body, and he talks on the way to the telephone, looking from one man to another.

"I'll get him to send the ambulance down. He won't mind. There's no point to the risk of driving up ourselves. Nausea's the thing right away. Most of you were far enough away, I think, but maybe a couple of us. I remember— If anybody gets a bad nausea, it can come fairly fast sometimes. We'll probably all feel fine, but we might as well get a ride, don't you think?

"Dr Pederson at the hospital, please," he says into the phone.

And turning again to the men in the room, he continues:

"We all moved back after it went critical. It'd be a good thing to know where each of us was standing. Try to recall it, will you?

Make a note of any obstructions between you and the pile. You were pretty much right behind me, weren't you, Walter?"

One of the men nods. The soldier looks from Saxl to the man and back again to Saxl. The soldier has known for only two or three days that Saxl is a Jew, and he is puzzled by Saxl's failure to look like other Jews he has known. The soldier has studied Saxl covertly, along with the flower, when the opportunity has offered during these days, and is puzzled further because Saxl does not, he thinks, have any conspicuous feature at all, except shining eyes. He notices the shining eyes now.

"Charley?" Saxl says into the phone. "Hello, Charley? This is Louis Saxl. Charley, we've had an accident down here—radiation. No melting or anything, but it was intense, all right. There was a blue glow."

The soldier stands by the door, not knowing what to do. The telephone talk does not last long, and after it is over Saxl and the others spend several minutes talking together, walking back and forth, and then several of them begin to chalk in rough squares or circles or even the crude outlines of feet at various points on the floor away from the main table. No one goes very close to it. The soldier asks if he can do anything, but one of them says no, there is nothing to do, except to stay outside and make sure that no one comes in to disturb anything.

"No," Saxl says, turning from where he is standing. "I'm going to get Dave Thiel to come down. You know him, don't you?" he says to the soldier, and the soldier nods.

"I'll call him and tell him what happened," Saxl continues, walking away, and speaking to no one in particular. "He can come down and reconstruct everything. He can get the record off the controls. I hate to ask him, but maybe he can run through it again, maybe he—"

The soldier sees that Saxl has moved up a little toward the table. His head is lifted and he seems to be looking from one meter to another in the bank of meters above the table. He picks up a small metal block from a pile of blocks on a smaller table and turns it over slowly several times, looking at it carefully. The soldier notices that some of the other men have

stopped what they were doing to look at Saxl. He puts the block down, again studies the patterned faces of the meters, then lifts his hands slightly and looks down at them. He is doing this when the sound of the ambulance, a low and distant sound which breaks with the shifting of gears and continues on a higher pitch, comes to all of them in the room.

The soldier is desperate to know what happened and, even more, what is going to happen, but he does not know how to ask, and besides he can tell that this is not the time to ask. Still, he cannot stop himself as the men file out of the room, on to the porch, and down to the clearing into which the ambulance is just now coming. He touches the arm of the last man, and makes a kind of gesture, and starts to frame some words, but the question mark of his curiosity is stamped all over him, and the man addresses that before the words are said.

"Why, I can't tell you, I don't know, except he lost control." The man looks at the soldier with some surprise: "But I don't know why."

From the porch the soldier watches the ambulance fill, and then manoeuvre to leave the clearing. The jeeps and the military cars, four of them parked at random, clutter the space and thwart the driver in his efforts to turn the big car for the trip back. He nicks one of the jeeps and the soldier hears him swear. Then he backs slowly and carefully between the two military cars, back over the edge of the clearing; this gives him the position he wants and now he goes straight across the clearing to the road leading up through the trees, and in a moment is lost among them.

## PART 2

### ***Wednesday: of the mind and heart, but not the hands***

#### ***I***

From the mesa the lights that play on Truchas at dawn are lavender and blue, and gold sifts onto the plain between the mesa and the peak before the peak is brightened. From the mesa the peak is inexpressibly remote and lovely in the early morning light. It is cold, in May as it will be in July, at dawn on the mesa, and the town itself has the special enchantment that many towns have before the people who live in them are up and around. The main street of Los Alamos runs east and west along the mesa, and as the sun comes up to surmount Truchas it makes long shadows of street lights and signposts and of any figures which happen to be abroad. At a little before seven o'clock on the morning after the accident in the canyon building, just as the rays of the sun were pouring across Truchas, David Thiel came out of the hospital, out onto the pavement of the street, for the paths

along the side were muddy from spring rains, and turned to walk along it, leading a gigantic shadow into the sun.

He raised the collar of his jacket, which was wrinkled and stained, and hunched his shoulders to raise it higher. He walked with his head held forward, because it was easier to walk with his lameness this way, and bent down against the cold. From behind or from the side he made a very slight figure; he was short and delicately built, and you could not see how beautifully formed his head was when he walked this way. He was thinking to himself about a line from a writer, a Russian writer he thought; the line was: "All prayers come to this: 'Dear Lord, please make two and two not equal four.'" From time to time he lifted his head, and then you could see how well formed it was; the expression on his face was intense, with his thought, with the cold, and with the stamp of the night he had spent. From the front he was an impressive figure, leading the long shadow.

One of David Thiel's legs was shorter than the other, and was twisted, too. Because of this he walked with a cane, a heavy stick covered with knobby stumps; it was an imposing thing, massive out of proportion to the man; and it glistened in the sun, as though it had been oiled. He made intricate use of this stick, of his good leg, and of his crippled leg to proceed in a way that seemed to leave the upper part of his body relatively motionless, as though it had resigned itself and was indifferent to the effort which walking must once have called for or called for even now. There was no one else on the street, and no one else to be seen anywhere on the mesa.

"Dear Lord," David said, half aloud. Some old Russian writer, he said to himself, but he couldn't remember which one.

After he had gone along the street for a while he came to a narrow cross-street, not much more than a lane, but paved; it led between two rows of houses, and David turned and went down it; shadows from the houses in the eastern row alternated with bands of sunlight from the spaces in between, and the figure of the small, labouring walker faded and brightened across them. At the eighth house he turned, without looking up, and as sharply as though he had been suspended on a wire; he went to

the door of the house and knocked. There was a nameplate just to the right of the door; it was a brass plate with polished, raised letters which read: "Col. Cornelius Hough." David traced the letters with the tip of his cane while he waited. Then, after a minute or so, he rapped on the door several times with the head of his cane. Interior noises followed the raps: shufflings, shiftings, and voices laced with sleep. At last the door opened and Colonel Hough stood there, quite trim and soldierly even at this hour, even in his dressing-gown.

"David," he said, and his voice saying this one word was sympathetic and paternal and only slightly reproachful. All in this one word and in his expression the Colonel was saying: "You shouldn't have stayed at the hospital all night," and "You shouldn't be here so early," and "You shouldn't be in the mood I can see you're in," and "Still, I understand, I think."

"Come in, Dave," the Colonel said.

"Nothing has happened?" he said as he turned, stopping his turning to say it.

"No," said David, "everything proceeds according to plan."

The Colonel looked briefly at him, and his expression conveyed nothing this time. He walked on back into the house, David followed, and the Colonel called to his wife. He announced David and ordered coffee. She called down that it was a terrible thing that had happened to Louis Saxl and the others. Her voice was agreeable and she asked no questions, for she had been married to Colonel Hough thirteen years and most of this time she had spent at one Army post or another.

"Well, no change," the Colonel said. "That's good, isn't it?"

David shrugged his shoulders.

"His hands?" the Colonel asked. "Are they bad?"

"What time did you leave the hospital?"

"Why, it must have been eleven or so; ten thirty, I guess it was."

"Yes," David said. "They put his hands in ice a little after that. The left one's about the size of a cantaloupe. They won't save his hands."



"I see," the Colonel said. He walked around the room, taking occasional quick looks at David, who stood in the middle of the room tracing a figure on the Indian rug with his cane. The Colonel's wife had bought it at one of the pueblos soon after she and her husband had come to this post.

"Would it be possible, by doing that, amputating the hands—" The Colonel started, and then after a pause continued: "With gangrene and things like that, if they amputate in time they stop it from spreading. Is that a possibility?" The Colonel paused again, and after a moment continued again. "Confine the mistake to the part that made it?"

"No," David said, "not with this."

"I see," the Colonel said again.

"Did you ever read the report on the medical effects of the bombings in Japan?" David asked. "Louis was supposed to have gone out with the group that made that report, but he stayed with Nolan. Remember Nolan? Louis stayed here with him. Same experiment, same effects, only worse this time. Did you ever read that report?"

"I remember. Yes, I read it; well, not in detail, I guess."

"It's not necessary to read it in detail. You brasshats never read anything in detail. But you know what happens well enough, sometimes anyway, certainly here. Seven men dosed up with radiation and you solace yourself with silly questions."

"What about the other six?" the Colonel asked after a little pause.

"They'll live," David said.

"That was a heroic thing Louis did," said the Colonel.

David looked at him. "What was heroic?"

"Why, knocking the pile apart. Stopping the reaction with his hands, you know."

"Neil, quit this silly talk. It happened faster than the mind works. What do you do if someone hands you a hot brick? You drop it. Is this heroic? It's a reflex."

"Yes, but still—"

"You've never seen the experiment. The damage was done in

a few microseconds. It was done, and that was that. Neil, I want somebody's assurance from the military side that this experiment won't be done again this way."

"I don't make those decisions, David."

"You have quite a voice in them."

"Yes, I have a voice in them, but a lot of you scientists have just as much—more, probably."

"Yes, and a lot of us scientists have been arguing since the end of the war to put it under remote control. The fact is, this is still an Army post."

"Like no other I ever saw," the Colonel said with some fervour. "David, will you please sit down?"

They sat. From the kitchen came sounds of the Colonel's wife.

"David," the Colonel said then. "From the beginning this project has had two heads. I don't think you ever heard the story about General Meacham and our friend Cardo. Cardo never talks, at least, not so that I can understand him. And the General never talked much about this one. Anyway, back in '43 when we were just getting going, the General saw Cardo one day and told him he wanted such-and-such a piece of equipment in operation by such-and-such a date. Cardo said it might be possible, he said he'd keep the General informed. Brother! This burned the General up. He said: 'Cardo, this is a military undertaking, I'm the officer in charge, I expect results, and your reputation might suffer if I don't get them.' Something like that. Well, Cardo, with a Nobel Prize and all, he just looked at the General and shook his head slowly. Like this. Just moved his head back and forth. Then he said: 'Not my reputation, General. Mine won't be made or unmade here. *Yours* might suffer, though.'"

"No, I never heard it," David said. "It's a good story." He chuckled nominally. "Puts you stuffy bastards in your place." His face tightened again and he sat looking down at the Indian rug.

"In those days," the Colonel went on, turning his head to look toward the kitchen, "the idea was to teach you fancy boys some spit-and-polish. I've heard you scientists give the General hell, and the whole Army for that matter, but there's no point to it. We gave up trying to run prima donnas like we do soldiers a

long time ago, and I never could understand why you keep on beefing about the military mind. Live and let live. We got the job done, one way or the other. Anyway, Dave, you know what I do here. I'm partly in charge, but I'm a glorified housekeeper. I'll have you shot at sunrise if you quote me, except it's no secret and except I can't have you shot."

He bent forward a little to see the expression on David's down-turned face, and saw that his run of talk had not succeeded.

"No," David said, in a voice so low, to begin with, that the Colonel had to lean forward to catch the words. "But you prove what I mean, every word you say proves what I mean. We beef about the military mind, because the military mind, even yours, subordinates people to routines, and refers decisions elsewhere, and makes an art of buckpassing. It hasn't any interest in what is, or might be, but only in what has been, and only in what's been officially sanctioned out of that. It's not only always fighting the last war, as some of you admit, but it's always thinking in terms of the future war. You're paid to defend us, and your thinking is appropriate to that, but you're not paid to make it necessary to defend us, which is what your thinking leads to. Nine months since the end of the war, and this is still an Army post, still making bombs, and in Washington the military mind is beating its brains out to make sure it keeps control of what us scientists, meaning us engineers and machinists, have put together out here. There's a little time gap now, it's possible somebody might put a peace together, and the military mind has devised as its contribution the test of new bombs at Bikini. I know very few scientists who are much interested in these tests, and you know as well as I how many of the good scientists have left the project and how many more are leaving—at least partly because they're fed up with the military mind. I don't know what Bikini is supposed to prove that a competent technician with a slide rule can't tell. Do you? But the laboratory has been working full blast to prepare gadgets, in which I include bombs, and computations to satisfy the military mind for a demonstration that is essentially political, in my humble opinion, and a hell of a contribution to keeping the peace. And so an obsolete experi-

ment that is and always has been dangerous, that served its purpose, that could be justified at all only by the urgency of war, has been allowed to take a sacrifice, while you talk about how we got the job done and let's live and let live. Confine the mistake to the part that made it. I heard what you said, I made a note of it. But did Louis's hands make the mistake? Are you sure? I'm not sure, but the military mind is always sure, if it can think of a precedent. So poor old Nolan serves a final purpose. *His* hands slipped, *he* fumbled, *he* dropped a screwdriver, to be specific, and it fell where it shouldn't. Ergo, Louis must have dropped a screwdriver, too. But I ran through that experiment twice last night, as soon as I could, as soon as the stuff cooled down. I talked to Louis about it, I got the charts of it from the Esterline-Angus. I talked to everyone who was down there. Nobody's hand slipped. My God, he'd run that experiment sixty-three times, this was the sixty-fourth. He was supposed to go out to Bikini today—he had his orders, military orders. I went to the store with him yesterday to help him buy some water fins to take along. This was supposed to be his last run-through of that goddammed, out-of-date, meaningless business, which never should have been set up the way it was and should have been changed over at least nine months ago. Why wasn't it? God damn it, why wasn't it? Because the military never got around to doing it, you all passed the buck, none of you made the decision, none of you makes those decisions, but those decisions come through the Army. It's an Army post. Well, why weren't they made? Why? Do you know why?"

The Colonel had stiffened noticeably during this. He was not looking at David as David finished talking, and for quite a while neither of them said anything. From just beyond the door to the kitchen came a soft rattle of cups and saucers.

"It's my impression Saxl himself didn't argue too strongly for mechanizing that experiment," the Colonel said finally. "We had some meetings, you know, and I heard him several times—"

"You heard him say he'd go on doing it because he could," David interrupted coldly. "And you also heard him say it made no sense for anyone else to do it that way. Ah, Jesus, we'll get

nowhere with this, but I suppose you know why he was doing it yesterday. He was showing Walter Haeber how to run it. Haeber takes over while Louis goes to Bikini—was to go. And so? Well, we all try to win the war, each in his own way. What war? Why, the war civilization cannot stand up under, if I may quote General Meacham from the Sunday papers."

"David, you've been at it all night," the Colonel said, getting up. "A very bad thing has happened. I think I understand how you feel. I'm sorry, I'm sorry as can be. But we won't help anything talking this way. It certainly needs discussion, but—Lorraine!"

The door opened at once and the Colonel's wife came in, dressed in a faded housecoat, her hair in curlers. She bore a tray with the coffee-things on it. She looked at David with compassion, and in a moment she had poured coffee for all of them, while murmuring many sympathetic words and suppressing many curiosities out of deference to the haggard visitor.

So they sipped and said what there was to say, which was less than it might have been because David now offered very little. After he put his cup down half full—it was his sixth, he said, since five o'clock, when he had left the canyon laboratory—he sat with his head propped on his cane, cocking his head this way or that occasionally to trace with his eye the geometry of the rug's pattern.

"Well, we'll just hope," the Colonel's wife said, "hope and pray. They do wonderful things nowadays."

Louis did not want his parents to be notified of the accident, David told them; he had said he wanted to wait, he had said there was no point in getting them all alarmed.

"Is this possible?" he said, eyeing the Colonel. "Or is there an Army regulation against it?"

"We'll have to notify all the families concerned," the Colonel said. But he would, of course, talk to the doctors before doing anything; nobody would be unnecessarily alarmed.

"David," the Colonel said, "do you know what he thinks himself?"

"No."

He hasn't said anything to you?"

'Not about what he thinks.'

"The poor boy," said the Colonel's wife.

"David," the Colonel said, "if there wasn't a slip somewhere, what did happen? You said you ran it through twice last night."

"I should have been so frightened," said the Colonel's wife.

"Well, a slip, yes," David said, "but not of the hands. Of the mind or the heart, maybe, but not the hands."

"The mind—?"

"It's a very delicate experiment. It requires very sure control."

"Yes," said the Colonel, "I know it does, I've heard about that. But that's just what—"

"Well, if you knew about it, why did you let it go on?" David half shouted. He struggled to his feet, and stood facing the Colonel, leaning on his cane. But he continued calmly.

"Look, I thank you for the coffee, and I'm sorry to rout you out so early in the morning. I wanted to ask you a question, Neil. What are you going to say about this business?"

"Why, I'll talk to the doctors before we do any notifying."

"I don't mean that. What are you going to tell a reporter if he calls out here?"

"Oh. How'll they know about it? I don't think the papers will call."

"Something you said last night, something in the way you said something, sounded like you plan to deny there's been an accident. There's been a serious accident, no matter what happens. What are you going to say?"

"Dave, let's cross that bridge when we come to it."

"Are you going to deny anything happened?"

"I have to discuss this, David. There's a security angle to this, you know. There's also a question of public morale."

"You do plan to deny it, don't you?"

"It's not a matter of denying anything, God damn it, Dave. I just plain don't know yet what we can say, or whether. Personally, I must say I don't see much point in a big splash in the papers, 'Seven Injured at Bomb Laboratory'—and stuff like that. Particularly with radiation involved. That scares people."

David was moving toward the door.

"The point is seven *were* injured at bomb laboratory," he was saying, "and one of them maybe more than injured. The point is also that you Army guys slap a security angle on everything that embarrasses you. The Army's embarrassment is not quite so important as what happened, though, and that it not happen any more." He reached the door, opened it, and walked through it without stopping. "The point is, finally, that there's going to be a story—one way or another. Good-by."

Dismay on her face, the Colonel's wife came to the open door and stood beside her husband. Together they watched the small figure move down the walk to the street again.

"You shouldn't let him get away with that kind of talk. I'd have slapped his face," she said. Dismay had given way to anger, but a shadow of the dismay returned.

"He could make trouble," she said, and then she was petulant.

"Why do you let them talk to you that way, and you're supposed to be in charge of the Post, partly anyway," she said. "They all think they're so special, even that cripple. You let them walk all over you."

"And you get all emotional," the Colonel said, turning away from the door. "Women and scientists—maybe in between a soldier can get a job done." He sat on the sofa where David had been sitting, and stretched his legs out before him, and contemplated them. "I wouldn't so much mind a newspaper story on the heroism angle. Mistakes do happen, but that heroism angle makes a different story." He lifted one of his legs slowly, bent it, straightened it out, and lowered it slowly to the floor again. "A different kind of story," he said.

His wife poured out more coffee.

"Is Louis Saxl going to die from this?" she asked.

The Colonel's hands were clasped over his belly. He unclasped them, and turned them slowly, flexing the fingers, and then began abstractedly to clean the nails of one hand with the nails of the other.

"I guess I wouldn't give much for his chances," he said.

"You know, I'd never thought about it really," his wife said.

"But Jews—I'd just never thought about it—are they buried differently?"

"Oh, Lorraine, for God's sake!" the Colonel said. He got up from the sofa and went to the door, stood in the doorway, and looked up and down the street. David was gone, but by now the street was populated with half a dozen men, all walking along it in the same direction, toward the center of the city. One waved from the far side of the street, and the Colonel waved back before he shut the door.

## 2

Towns are settled and people go to them for the most varied and astonishing reasons. Louis Saxl's great-grandfather, who had come out of Germany not long after Carl Schurz, had gone, of course, to New York, where for some time he made, or failed to make, a living as a music teacher. After the Civil War many people he knew, even including some who had succeeded in making livings, fell in with the great move westward, and he came to spend much of his plentiful time talking to friends who were leaving. He was not sure what he sought, but he prided himself on being a reasonable man, and it seemed reasonable to him that from exposing himself to the prods and compulsions of these seekers he might find a prod to serve himself. Gold, however, either mined or harvested, did not excite him; the personal problems that he listened to were too specialized, and the challenge of opening up the land was too general.

One evening, listening with respect but not with great interest to a statement of mission by a young man who was going to take a pulpit in Philadelphia, he learned that in all the sweep of the nation between the big coastal cities there were no more than five rabbis who spoke English. He sometimes considered himself a man of action, and his first thought on this occasion was that he would go west and become a rabbi, since he spoke English, or



perhaps a teacher of rabbis, since he taught. He thought he might go to Cincinnati, a centre of the Reform movement, which, out of the moderateness of his religious feelings, he supported with fervour. Following this line of thought, he went so far as to consult a map, whereon, to begin with, he sought out the locations of the cities in which the English-speaking rabbis were. One of these cities was Quincy, a place he had never heard of, in the state of Illinois, about which he knew nothing except that the great Lincoln had come from there. Pondering the map, he made the discovery that the fortieth parallel and the ninetieth meridian crossed at a point not far from Quincy, and then he noticed that many of the nation's greatest cities fell within a few degrees one way or the other of these two lines. Nothing he had heard and nothing he felt seemed so reasonable to him as the notion that their juncture must be marked by destiny; and besides, this notion was his own.

There was no town where the two lines crossed (and, nearly a century later, there still is none); but a collection of houses and stores called Georgetown, a little mass in the void of the fields, was trying to become a town not far from the juncture. Mordecai Saxl took his wife there; the day after he arrived he found out from a local surveyor exactly where the lines crossed, and then he walked to the spot which turned out to be seven miles away. This pleased him because seven was a good number. He arrived poor, and he got no richer, since he was a teacher, but he probably did as well in this place as he would have done in another. In the course of time Mordecai and his wife died; they died reasonably happy and respected, and, although both of them were soon forgotten, they left a son named Abraham to carry on the family's name and improve its fortunes, and each of these things he did.

No one can say for sure why the Pueblo Indians came to make a town on the mesa of Los Alamos or why they came to leave it; the ruins found there bear no testimony on either point, except that both events took place so long ago that they belong to a realm of things which cannot very well be conceived of as ever having had the capacity to be different from what they were. Or they have to be approached so broadly that the whims of men or

the minor variables of life, which might once have explained much and which attach themselves endlessly to explanations of the events of last week or a year ago, cannot be invoked and so are ignored, and soon are denied, and finally are buried under references to the law of necessity, which states that these things happened because they did.

Perhaps, in fact, an ancient Pueblo sage, resident at the time somewhere south of what would one day become Santa Fe and being made aware of certain new developments in the war-making potential of his tribe, recalled that in his youth he had once ridden north along the Rio Grande to test the hunting, and had come out upon a mesa so isolated, so advantageous to the private development of tribal achievements, as he could now see, that, having thought of it, he at once led the warriors back to it, there to set up a secret camp, which flourished for a while before going to ruin under forces now forgotten (although conjectures might be made).

The formal histories of the atomic project simply state that at the appropriate time in the great undertaking an appropriate site was selected, the selection being dictated by considerations to insure the utmost secrecy. This is to say little more than that the bomb was made at Los Alamos because it was. But the law of necessity does not need to be invoked for an event so recent as the establishment of a town in 1643. In the latter months of 1642, in fact, a young theoretical physicist, aware that a chain reaction in the fission of uranium was about to be achieved, and further aware that a supremely secret site was being sought at which the new scientific advance could be translated into the technical triumph of a weapon, recalled the mesa of Los Alamos, a place near which he had spent many happy days as a boy, riding horseback, camping, fishing, hunting. It occurred to him that characteristics which had made the mesa a place of glory to his childhood, its remoteness and its isolation, recommended it for the projected work, and he proposed it to the military authorities, and took several generals out to look at it, and they concurred. That is how the Army post known variously as Site Y, or the Los Alamos Scientific Laboratory, or "the Hill," or "the Magic Mountain,"

or by other names, came to be set up among the ruins of an ancient people's camps.

"You know," one can imagine the physicist telling the generals, "there's a place where I used to camp out as a boy—" and at once a chink opens in the massive impenetrability of the two-billion-dollar project, through which fancy can discern, among the stern, implacable figures she has already conceived, the generals warming slightly underneath their uniforms, their eyes turning in on evocations of moments safe from prying eyes on riverbanks, or even in niches below the cellar stairs; and speaking or thinking, for a moment, not of bombs but of boyhood. The secret times of that time are the most secret of all, the most everlastingly private, the safest in retrospect, the most like unto the prime secrecy of the womb; and hence the physicist's proposal must have given an almost sentimental sanction to the choice of the mesa of Los Alamos for the secret gestation of the bomb.

Indeed it seems there would have had to be something like this, so formidable were the obstacles that the mesa imposed on its use.

Like the Indian sky town of Acoma farther south, or like a moated castle of the middle ages, the mesa of Los Alamos was all but inaccessible. The single road which led up to it, a narrow and winding mountain road, intended for the horse and barely usable by the automobile, was well-nigh impassable to the big trucks which began to creep along it early in 1943. The trucks brought spectrographs, X-ray diffraction machines, Wilson cloud chambers, and tons of other equipment from New Jersey; two Van de Graaff generators from Wisconsin; all the massive and delicate parts and pieces of a cyclotron from Massachusetts; the very special elements of a Cockcroft-Walton high-voltage device from Illinois; and a thousand other things, including waxes and lacquers, flasks and acids and solvents, rubber sheets, and battery clips, from dozens of other places. Nothing of the sort was there and nothing of the sort was even near. The trucks manœuvred these things up the road with great difficulty, and the trucks also brought great loads of nuts and bolts (round and hexagonal), screws (brass and stainless), and saws and hammers and lumber,

for nothing of this sort was there either. Houses had to be built for the people who would do the work in the laboratories, which also had to be built, for there was nothing there, nothing at all beyond a few structures which had served a small ranch school for boys. There was no power plant, no machine shop, and too little water. The people had to be brought, under instructions that gave away no secrets, not knowing what they would find when they got to where they did not know, from New York and California, from England and Canada and other places. Many, who were not able to discern the magnitude of the goal through the wrappings of the secrecy, would not come. And some, who discerned, fled in dismay from the primitivism of the site, where, they were sure, the goal could never be reached.

All of these were of faint heart, and wrong besides.

It is a measure of the magnificence of the effort on the mesa that the difficulties were all overcome. But it was the almost holy deference to secrecy that made it necessary to overcome them, and that was a measure of something else. This something else was woven with the magnificence into the fabric of the town's life; it threaded the words that were said beside high-vacuum pumps in the laboratories and the words that were said under bridge lamps in the newly built homes and rooms at night. What it was can no longer be felt or sensed in the life of the city, and what it had been was half forgotten even in the spring of 1946, for by then it had unravelled out to edginess, to many forms of edginess.

But in the beginning . . .

In the beginning Mr Herzog, the most patient and the most polite of men, stood waiting for the arrival of the truck which would bring him the can of Glyptal without which he could not join a length of glass tubing to a metal collar. Until he could do that, he could not proceed with the measurements he was making, and on his measurements a hundred others waited. He stood rather quietly by a Coca-Cola cooler in the corner of his laboratory, and his mind turned on one thought: what was Max Ottoberger doing? Although Ottoberger had stopped seeing him

more than a year before he had had to leave Germany, they had been for several years before that close friends and colleagues. Presuming on this fact, Herzog had written Ottoberger from England, in the late thirties, asking if he would not intercede with the Nazis on behalf of an elderly Jewish physicist who, from all the signs, had disappeared into a concentration camp. Herzog had received no answer to his letter, which did not necessarily mean one thing more than another, but from that time he had thought no more of the days of friendship with Ottoberger and had thought increasingly of Ottoberger's capacities and bents as one of the world's great physicists and as one of the few such left in Germany.

Now, in the constructive debris of this fantastic burgeoning on the mesa, Herzog eyed the Coca-Cola cooler, wondered what Ottoberger was eying and thinking and doing, and waited for the Glyptal. An hour and a half after he had been told the truck would arrive, a soldier attached to his laboratory came to tell him that the truck had just come in but that the Glyptal was not on it. With the soldier Herzog walked a quarter of a mile to the unloading station; several Army officers, soldiers, mechanics, and people from the stockrooms were there, and so were two or three of the physicists and chemists. There was no Glyptal. Among the crates and boxes containing many other things, there was, however, a new and shining Coca-Cola cooler. Herzog looked at it and began to shake. He stood in one spot and, as the others stopped talking and turned to look at him, his head and his arms and his legs shook. They shook for nearly a minute.

"Will you go to hell—please?" Herzog said then. His face ashen, he turned and walked away toward his laboratory. The phrase became famous. Truck-drivers, battling their trucks up the rickety mountain road, sometimes called it to each other, although Herzog's colleagues never said it in his presence.

In the beginning there was fear. Most of all, the settlers of Los Alamos feared what they did not know. Forty years before, their mission on the mesa could not have been dreamed of; five

years before, it had only been dreamed of; nobody had ever undertaken anything remotely like what they came to do; they were by no means sure it could be done. There was thus a fear of failure, and their failure (they feared) might mean the loss of the war and the beginning of barbarity. But the fear of success was no less a fear, for they were—precisely what were they preparing? They were preparing an instrument so horrible in its power to maim and destroy that its use, which would be the crown of their efforts, would not easily be separated from barbarity. It was necessary to fear that the enemy was working to the same end, for their fear that the enemy might reach it first alone could solace that other fear about the barbarity of the instrument. But their work had led them into industrial involvements that would clearly overtax the bombed and strained resources of the enemy; consequently, if what they were doing was the way to the solution, the enemy was much less to be feared. The naggingest fear of all thereupon took over: that the enemy might somehow contrive a simple and wholly unforeseen solution. And because there was so much they did not know when they came to the mesa, there was reason, as well as the solacing need, to fear this.

So the scientists—to whom secrecy is a noxious thing, the bane of work, of inquiry, of truth, of results—embraced the secrecy which they deplored, finding in the cluttering extremes of it not only a concealment but perhaps a cloak for the tormenting doubts of the enormous thing they were about; a margin for their errors; a kind of hope among the fears. And if they were going to stop their science (for the work on the bomb made engineers and mechanics of all of them) and put their researches aside (for who could say how long?), perhaps a remote mesa was the best place for that.

From the beginning of 1943 the physicists and chemists, and the engineers and technicians, moved into Los Alamos without a let-up. They came to do the work of the city; and the Army, officers and soldiers of all ranks and many skills, came with them to administer the city. Others by the thousands, doctors, teachers, construction workers, maintenance men, nurses, personnel direc-

tors, cooks, and firemen, came to service the city. They all moved away from wherever they had been, singly and in groups, with their husbands or their wives and their children, and took the trip to Santa Fe, moving on at once into the remarkable land of the mesas and the mountains, the polished skies, the overhanging past, and the new fears.

The mesa was what it was; the houses were at first nonexistent, then bad, and finally inadequate; the water ran out, was carted in, ran short, and was carried in; the road broke down, was repaired, broke down, and was rebuilt; walks which were paths turned to mud in the rains; and until the spring of 1946, by which time six thousand people had moved to the mesa, there were thirteen bathtubs in all of Los Alamos. The stresses and unnaturalnesses of a daily life that served a single purpose were added to the fears that the purpose imposed.

Some of the people of the city were enormously impressed by the secrecy and the possible historic importance of the work, and so came to identify even the stresses with the trappings of high adventure. Others, irked by the secrecy or plagued by the fears, added the high adventurers to the stresses to be endured. Patriotism or realism, one or the other and sometimes both, became rails to be grasped. But the tension of achievement took over everything, subordinated everything, at last. And the end of the war ended the extremes of the secrecy, many of the stresses, and all of the fears but one.

There were several answers to the question—what have we wrought?—and one of the answers was to leave the mesa. In the months following the end of the war, although the administrators and servicers of the city continued to increase, the scientists who had worked to the city's single purpose left by the hundreds. They left for many reasons, and not all who left because they had no other answer to that question told why it was they left. Some of those who stayed behind saw the reason in their eyes, or heard it from their wives, or read it in a letter written some time afterwards, from some centre of research a long way from war. And many of those who stayed lived now with agonies of indecision, wishing they had gone, thinking of going, or with a

kind of troubled apathy, as though they were animals in a long-fenced pasture from which the fences had just been removed. For these the difficult question grew daily more difficult; in wartime it had penetrated all but the most ecstatic of patriotisms and the most rigid of realisms to set up a resonance in some protesting centre of the spirit; each had been able to justify his wartime dedication in his own way, more or less satisfactorily; but the wartime justifications did not work so well, and for some not at all, without the war. In the spring of 1746 Los Alamos was edgy with the residue of many fears, and with the preparations for the tests of new bombs in the lagoon of the coral island of Bikini; and with the twists and turns of the great legislative battle in Washington to perpetuate, or to end, the military control of the universal atom; and with echoes of this battle, and reports in the papers, and speeches before Elks Clubs and the United Nations, which seemed to mean that very many people did not know at all what they had wrought, or that there was a question.

"The three conditions of scientific work are the feeling that one ought not to leave his path, the belief that work is not all intellectual but moral as well, and the feeling of human solidarity." So wrote Szent-Gyorgyi, a Nobel Prize winner of 1737, two years before the fission of the atom was discovered. In the spring of 1746 all three of these conditions were lacking at Los Alamos for the scientists who had left their science to take on the building of the bomb, who were having trouble with their beliefs in their work, and whose feelings of human solidarity were the source of the trouble.

In the spring of 1746, at just this time, the snows on Truchas Peak fell back, the spring flowers unfolded along the trails and paths around the mesa, three hundred new bathtubs were installed in the town's houses, and the lovely, peaceful evenings, growing longer, were a joy. On weekends the paths and trails were full of walkers and riders, campers were out in the mountains, rock-collectors were down among the rocks, and many of the residents of the town were talking to the Indians in their pueblos, buying rugs and bowls. Still, taking one thing with another, there was not only an edginess, there were many kinds of



edginess, the residue of fears passed by and the mirror of one that would not leave.

### 3

From the Colonel's house David Thiel went back along the streets by which he had come. Hardly more than an hour had passed since he had moved through them alone; a few lights for the night still burned in the bright day; but now from their houses west and north and east on the mesa, men were walking in to the centre of the city, and through it to the southern side, where, behind a tall steel fence, topped with barbed wire and punctuated with guarded gates, lay the Technical Area. A jumble of buildings, of many heights and all shapes, sprawled behind the fence; and through spaces between them, beyond the canyon which the buildings rimmed, several low, long buildings could be seen on the next mesa. The land did not rise much again beyond that; it stretched flat along the foot of the mountains, sloping off to the south, past Santa Fe, into the low desertland of Alamogordo nearly two hundred miles directly below.

There was traffic in the streets now, jeeps, military sedans, trucks, and ordinary cars, but most of the walkers went along ignoring them, avoiding the muddy paths, as David did. Most of those on the streets knew each other, and some proceeded in pairs or in little groups; but largely they went by themselves, each at his own pace, signaling friendship with a movement of his arm, a dip of his head, or a word or two. It was apparent that most of them had heard of the happening of the night before; they had on their faces, as they looked at David, a shading of melancholy which bore delicate reference to the fact that they knew. Some quickened their steps or moved across the street to speak to him. He spoke to them, but he walked steadily on.

Halfway along the main street from the Colonel's house to the hospital, David went up a walk leading to a small frame

building. He took a piece of paper from his inside coat pocket; then, reading it, he groped briefly for the doorknob. Inside, a counter bisected the building's one room. A girl in uniform stood back among the typewriters and desks that made a kind of office of the space behind the counter; a girl in a brightly coloured dress was leaning over a newspaper spread out at one end of the counter. Both girls looked up as David entered; the girl in uniform said: "Good morning," and David answered her. Then he sat down at the table near the door, took a pad of telegraph blanks from the holder, and began to copy, from the paper he had brought with him, some words that Louis Saxl had dictated to him in the night.

They were addressed to Theresa Savidge, at a number on West Tenth Street in New York City; they said that there had been an accident and that Louis would be in the hospital for a little while. The words were just slightly stiff, because they had been dictated, but with almost complete success they concealed the worry that they said she was not to feel.

When he had finished writing them down, David read them over two or three times, then got up from the table and passed the message on to the girl at the counter. She took it and began to check off the words with little taps of her pencil. Then suddenly she looked up, directly into David's eyes. Her face was long and bony, a pure American Gothic face, but her skin, pocked from some old illness, had the earth tint of a half- or quarter-breed Indian. In her eyes was such an expression of insolent appraisal—so odd in that face, so curious in that place at that hour—that David, who could not remember having seen her before, looked back with surprise. She did not move her eyes from his, did not look at his cane or survey him, and after a moment it was David who turned his face away. He felt a tingle of excitement from the complete directness of her look, and had also the sudden feeling that he would like to talk with her, and the knowledge that probably he never would, and a regret for that. Then the girl resumed her counting, while David, staring at the pencil, read the words again upside down. They transacted the details and David went out of the building.

Very shortly after this Colonel Hough came in. He nodded to the girl in the bright-coloured dress, who was leaning over her newspaper again, and spoke to the girl in uniform, who came forward.

"I am Colonel—"

"Oh, I know—Colonel Hough," the girl said, smiling at him. "I'm Sergeant Myra Quick."

"Several people were hurt here yesterday," the Colonel said.

"I know, I heard about it last night."

"What did you hear?"

"It was kind of an explosion, wasn't it? They got burned or something."

"No. Both of you," he said, turning to include the other girl, who looked up from her paper now. "There wasn't anything like an explosion, there was just an accident in some of the work, one of the men's hands slipped and he did get burned. They're all in the hospital, they're all getting fine care."

The Colonel paused; the two girls looked at him; finally he continued.

"The point is, if anyone brings in a wire mentioning it, don't send any right away. There'll be an order on this. I just happened to be going by, thought I could save a little time."

"Yes, sir. Don't accept them, or just don't send them?" said the Sergeant.

The Colonel thought a moment.

"Just don't send them. I want to get out an official notification first. Just don't send them for the present."

"We've got a wire from one of them already," the Sergeant said. "Just a minute ago. She took it. It was j'st—"

"Is that so?" the Colonel interrupted. "Well, don't send it yet. I'll let you know."

"Would you like to see it?"

"Oh, no, no, just hold it."

Again the Colonel paused, and the two girls stood silently watching him.

"The one who made the mistake did a very brave thing," he said finally. "He protected the others."

It seemed that he wanted to say something else, but he didn't. Abruptly he turned and left the building.

The girl in the bright-coloured skirt looked at the Sergeant with contempt.

"Why did you tell him?" she said.

## 4

Many little towns don't have hospitals at all, maintaining their seriously sick in their own homes or referring them to the nearest city. And there the hospitals are often well away from the centre of the city. If you never have occasion to go to a hospital it is quite possible to live, in many cities, year in, year out, without ever seeing one. But in Los Alamos the hospital, which looked somewhat like the community centre of a small New England town, stood at the very centre of things and served somewhat, on its outside at least, the function of a community centre. Although most of the buildings of Los Alamos were painted barracks, green or cold grey, the hospital was painted white. It fronted on the main street of the town; paths and walks crossed and curved through an open space, a kind of barren little park, between it and the street. A hundred yards down a small slope from the back of the building was a pond, a nearly round little body of water; it has been surrounded and swallowed up in the past few years by new constructions in the Technical Area, which it used to separate from the rest of the town. It may be that it serves no purpose any more; once it was a gathering-place for the children of the town, a rink for skaters, a hole for swimmers, a place for playing.

In the open space in front of the hospital there were benches, half a dozen crude wooden ones. On these, and on the stoop before the hospital entrance, people often sat for a while at noon; the doctors and nurses came out to sit on them and smoke; and, although there were regulations to the contrary, the friends of

patients on the first floor of the building drew the benches up and, standing on them, talked through the windows. Whether by accident or design, the maternity cases usually were put in the rooms with these accessible windows, and young husbands were the commonest users of the benches. In the evenings, sometimes three or four young men at once, sometimes for an hour at a stretch, talked through the windows to their wives. Los Alamos was a young town, and the hospital served mainly the medical events of the young.

On the morning after the accident in the canyon, Dr Walter Romach slowed down as he passed the open space on his way to the Technical Area, and finally stopped altogether. He put his briefcase down on the ground against his legs, lit a cigarette, and gazed at the hospital. A moment later Mr George Ulanov observed him from the other side of the street and, crossing over, joined him.

"Saxl's room is at that corner on the second floor," Ulanov said. "There," and he pointed. "What have you heard?" Ulanov emphasized the "you" ever so slightly.

Romach shrugged his shoulders. "I heard he got it worse than Nolan did last summer, but then I don't consider my source infallible. Besides, Louis is much healthier than Nolan was. Nolan's heart wasn't too good, and he was fat, fatter than he should have been anyway. But did you know about his heart? Things like that can be important."

"Why, I suppose they can," Ulanov said, continuing to look at the hospital. "But I'm not sure of what order of importance they are. Can they be important enough?"

"Well, naturally it depends," Romach said. "It might not mean anything, and then again you can see how it might be just the margin. It's certainly something on the good side."

"It is if it means anything," Ulanov said. "Did you know I had that same room a couple of months ago? When I broke my toe out skiing, skiing with Saxl as a matter of fact, one weekend. I got well in that room very quickly. It's a good sign, don't you think?"

"Oh, for heaven's sake," said Romach.

"You should be carrying a bland broth you made yourself and just wanted to bring over for the poor boy. The poor bastard. I can take care of my enemies, but God save me from my friends."

"If any," Romach said, looking around him impatiently.

"There will be a period during which everything will be distorted and elaborated into meanings it does not have, and this will be to salve ourselves, not him."

"So what are the meanings things should have?" Romach asked, in a loud, angry voice, turning now to face Ulanov. "Do you really know enough to have him dead already, when nobody knows anything for sure? I didn't know you were an authority on radiation sickness. I didn't know anybody was."

"No?" Ulanov said. "Saxl is, for one. At least he's an authority on the case of Nolan. He sat with him like a mother for most of those twenty days it took him to die. And at the very least he knows more than you, who will infect others with well-meaning nonsense, and this will be earnestly passed on to him in well-meaning calls to the sickroom—for him to see through, and brood about in the hours without visitors." Ulanov looked up at the corner room again, and then again said: "The hours without visitors."

Three men had stopped in the street a little distance away.

"Any news?" one of them called.

"What have you been doing to Romach?" said another. "He looks mad."

"Nobody seems to understand that it will take days to establish the level of neutron radiation they received," the third said, walking toward Romach and Ulanov. "The gamma radiation is not too difficult, but the neutron radiation is a very different matter. Many measurements will have to be made. And computations for seven people. Is it not so, Ulanov?"

"There is a time for this, and a time for that, and a time for this and a time for that," Ulanov said to Romach.

Two more men walking along the street came over to join the little group. A man walking by himself came in from the opposite direction. None of them said anything, but listened to Romach, who, answering Ulanov, was looking at the newcomers.

He was a big, solid figure, and he stood with his feet firmly planted, his briefcase still against one leg, and his arms folded across his chest; he did look angry, but not as though he were angry *at* anyone. And in fact he was more puzzled than angry, because he could not understand Ulanov, and was it not obvious that Ulanov had simply chosen to misunderstand him?

"—necessary to speak carefully to a sick person, of course, most of all an intelligent one, and absolutely to one who has had an experience with his sickness," Romach was saying. "It hardly needs saying. But it's true nonetheless that things like a good heart or a bad one—I was saying that Nolan had a bad heart, or, well, a record of some trouble with it anyway. Did you know that?" And he looked around at the group in general.

"Yes, I knew that," one of them said, "but what is the argument, please?"

"What I want to know," said another, "is how it happened. My God, if it could happen to Saxl it could happen to anyone."

Ulanov was talking earnestly to the man who was worried about the neutron radiation, a stocky man whose name was Pellow.

"—not at all like the Japanese explosions," he was saying. "The sequence of nuclear reactions is the same, of course, in a bomb or in the critical assembly they work with. But their assembly produced only ionizing radiation, no heat, no mechanical energy. In short, no explosion. Also, they were close to the origin of these radiations. So? So several thousand feet of air filtered the radiation from the bombs, but these guys got theirs through hardly any air and only that lousy little excuse for shielding they had down there. That means a higher neutron-to-gamma ratio. Also more beta rays. If Saxl's hands were actually touching the assembly, he could lose them just from the beta rays."

"If it could happen to Saxl it could happen to anyone," said the man who had said this before.

A very young man, not more than twenty-two or twenty-three, with stringy blond hair and pale blue eyes, spoke up now. He had been listening to Romach's explanation of the argument with Ulanov, and he was trying now to interrupt.

"Please," said the young man.

"That is a funny thing about the dates," one of the others said. "Tuesday the twenty-first again, and out of all the times they've done it."

"Please," said the young man, "perhaps Mr Ulanov and you were not talking about the same things."

"What's that about the dates?" Ulanov said, interrupting himself in a further discussion of the neutron radiation.

It seemed that only two of the eight men gathered here in the open space had heard about the curious coincidence of the dates. Several of them smiled, one pursed his lips, and the others, except for Ulanov, listened without expression. Ulanov began to walk back and forth in short steps.

"Why, isn't that remarkable?" he murmured. "Really quite remarkable."

Romach and the young man were talking by themselves, a little apart from the others.

"Nonetheless," Romach was saying, "he says I spread nonsense because I say the health of his heart is a cause for hope." Romach's voice was aggrieved.

"Third day, two and one," Ulanov said. "This is certainly very interesting. Three, two, one, *shunya*."

"But may it not be that if you consult your hopes too much you are in danger of ignoring the reasons to fear?" the young man asked Romach. "And so tend to an unrealism? Perhaps that is all that is meant."

"It is close enough," said Ulanov over his shoulder. He had come to a stop and was looking towards the corner room again.

"It is true enough about the high ratio of neutrons in this situation," Peplow was explaining to one of the others, "but that is not the only complication. It is necessary to know how the neutron dosage was distributed. For example, how much of this dosage got into the bones, where the induced radioactivity of the phosphorus would intensify the effects on adjacent tissues. This is very interesting, and very difficult."

"Are you superstitious, Ulanov?" one of the men said, smiling at him.



"Naturally," Ulanov said, "who is not? But it's a most unusual sequence, even once. Twice, you must either ignore it or dislike it. Three, two, one, zero, *shunya*, nothing." He spread his hands and made a grimace. "I cannot like it," he added.

"This *shunya*, what—" someone said.

"Mr Ulanov is going back to first sources," the very young man interrupted. "*Shunya* is the Indian word for zero, which the Indians invented. But, Mr Ulanov, aren't you consulting your fears too much, particularly such a rather exotic one?"

"Indians?" said a voice. "What Indians?"

"The residents of India," said another. "It always puzzled me that the Greeks never thought of zero. Dantzig argued that the slave basis of the Greek economy reflected a contempt for anything so useful—"

"Unquestionably," Ulanov said, "but what can you do with a thing like this? It is simply so beautifully pat and simple, it is there, and it will not go away. I apologize to Romach, however. Romach, I apologize. I am even a bigger fool than you."

"As a physicist," one of the men said, "I can take you both with toleration. Mathematicians like Ulanov always run to mysticism. You remember Ramanujan—why has India done so well with mathematics?—well, you remember Ramanujan used to write down those beautiful formulæ, and then often he wasn't able to supply the proofs. He said a goddess inspired him with the formulæ in his dreams. What do you say to that, Romach? As for you, you're just quarrelsome and conservative. That's because chemists are impressed by how much they know. We physicists know how little it is."

The polished air, warming quickly from the sun, vibrated in the open space from all of these reflections and opinions, although from the peak of Truchas nothing was happening and from across the street or from the corner window nothing could be heard. From even twenty feet away the voices were scarcely more than murmurs, for, after Romach's one outburst, all of the men had been talking quietly. From down the street a block away, where Betsy Pilcher first noticed the group, they seemed to be standing both silently and motionlessly, like cows in a pasture, Betsy

thought, growing angry at the sight as she walked towards them.

She had been walking slowly. She walked faster; I will show them, she said to herself, that some people have better things to do than stand and stare. And the better to show them, she tightened her face, which was slack and loose after the brief sleep she had had. At two o'clock in the morning the cold slap of the night wind, the enormous street, and the indifferent stars had bent her thoughts down and in to blackness; and her last look at the lighted squares of the corner windows, from the edge of the street that led off to her room, had made her cry. But it was not better now in the warming day, on the street with people, going towards the windows that looked like the others. She had taken a benzedrine tablet and had drunk three cups of coffee; she had let cold water from her shower run over her; and the consequence of these measures, together with her thoughts, was that she hated everyone she saw. For no one knew what she knew, and no one felt as she felt, and everywhere were enemies—most particularly the men in the open space, standing like pigs, presuming to be friends, but in reality (she knew the type) waiting to be fed with gossip, offering nothing, unable to offer anything, unhurt, *unhurt*, and a general intrusion. She made no effort to mask her tightly drawn face, and what she thought was in it. She slowed her pace while she shaped the hair that showed beneath her cap, and then walked firmly forward.

But they were not motionless, not standing quite like pigs, she saw as she came closer. She checked off their faces in one quick look, and discovered that they were not all gaping at her, and this had the effect of demobilizing them in her mind. More than she saw she sensed the small movements, the restlessness, and the slightly strained stances, which betrayed feelings not meant to be shown and embarrassment over the failure. Her face relaxed not at all, for although she had demobilized them she had hostility to spare for each of them individually. She knew them all, and indeed had attended several of them on minor things; but they all belonged to the past, and possibly to the future, and she did not look at them again. Even in the blur of their faces from the side she saw, or sensed, that one of them, and then another, was about

to speak to her; and she proceeded steadily past them. Like some other nurses, Betsy had learned to chart—with the view to dealing with or of absenting herself so she would not have to deal with—the courings of emotion that might lead to intractableness in the friends and relatives of patients. What she felt now, as she moved beyond the men, was no more than a climate favourable to such growths, which is to say that instead of the morbidity she had set her face against she had discovered a concern which might have touched her. But it didn't at all. For still no one knew what she knew and no one felt as she did. She cursed the men silently for the trouble they might eventually be, and went on up to the stoop.

As for the men, they could not, in the wake of Betsy's passing, pick up again the nervous, meaningless threads of their talk. Betsy had ignored them, but Betsy, or the meaning of Betsy, could not be ignored; and rather than say the simple things which the meaningless words had allowed them to leave unsaid, the men began to drift apart. The physicist, who had been speaking so urbanely when Betsy had come upon them, turned abruptly and walked off. The three who had arrived together reassembled themselves out of the gathering and together moved away. But others were coming into the open space. As this group disbanded, another was forming a few feet further on. A man called to Romach, who picked up his briefcase and walked over. Ulanov and the very young man were left standing by themselves; Ulanov was smoking and scraping the toe of one shoe back and forth across the ground; the young man ran his hand through his stringy hair once or twice, looked quickly at Ulanov several times, and then he too turned and walked away.

## 5

When David Thiel came along the street from the telegraph office a few minutes after this, Ulanov had gone, the second group

had broken up, but a third had formed across the street from the hospital. The half-dozen men in this gathering were walking very slowly, stopping, and again proceeding slowly. They were intent on their talk and did not notice David, who paid no attention to them, until he was halfway across the open space. Then one of the men broke away from the group and ran across, calling David as he ran.

"Any luck?" said David, half turning but still continuing on toward the hospital.

"Yes and no, or rather no and yes," the man said. He seemed to want to stop and talk, but since David continued on he continued too, walking half sideways. "That motor you thought about is no good—somebody took the brushes out of it. But my kid's got a little one, twentieth horsepower, you know. I took it."

"We could find another," David said.

"He won't miss it. Also I got hold of Dombrowski at the cyclotron shop. I'm seeing him later. They'll be glad to— Dave! Goddammit! Wait a minute, will you? What's the word this morning?"

David had started up the three steps to the little porch before the hospital entrance. He stopped now on the middle one.

"I haven't heard anything, not since last night. There won't be much to go on for a while."

"What do you think now?"

David started up the steps again. He said something in answer to the question, a monosyllable, but the sound of his cane against the boards buried it. At the top of the steps, on the porch itself, he half turned again. Across the street he saw Colonel Hough just joining the little group of men; they were all looking towards the hospital and he looked at them for a moment before he spoke again to the man standing at the foot of the steps.

"You know," he said, "you might take one of these hospital trays on wheels that slide over the bed and build the reading machine right on that. You'd save time. Anyway, it's a thought. Have you figured out how you're going to work it?"

"We'll manage, Dave. You look like the wrath of God. Why don't you go home and get some sleep?"

David nodded, then turned and went on into the hospital.

Across the street, Colonel Hough watched him disappear before continuing with what he had been saying.

"Well, I thought he might have stopped to talk with you. I had a word with him this morning. He's very upset. He got no sleep, none at all. Of course, Louis was his closest friend. Of course, it's a—oh, Lord, it's just a plain hell of a thing to happen, after all this time, and today—"

"It was a very tricky experiment. I often wondered—" one of the men began.

"Soldiers take chances," the Colonel's wife had been saying, "soldiers know they have to take chances. Is it different with scientists? Don't they have to take chances, too?"

"Yes," said the Colonel now, "it was that kind of experiment. I never saw it, but we'd had discussions about it. One thing was that Louis had done it so many times—"

"As I understand it," someone broke in, "it was trickier than it had to be. I never saw it either. But I heard just yesterday, I think it was, maybe the day before, that Saxl was trying to get it put under remote control."

"Do you know exactly what went wrong?" another asked. "I must say it's hard to avoid the thought that if it could happen to him it could happen to anyone."

Several of the men nodded. The Colonel shook his head. He did not know these men too well. Most of them were engineers and highly skilled machinists from the electronics laboratory and the machine shop, and three or four of them were new at Los Alamos; that is, they had come since the end of the war. As a rule the Colonel got along rather better with such men as these than he did with the physicists and chemists and mathematicians; he could tell more clearly what they were thinking, and what they were thinking was much more apt to be what he was thinking, or could think about if he tried. But he found himself looking at them with a sort of uneasiness now. There was so much these new ones didn't know about, and could never know about, from the war years, from the great exciting times, the secret times. You punk! he said to himself, looking thoughtfully into the

waiting face of the young man who had asked him what went wrong.

"I don't know yet," he said, and the men continued to look at him.

He had stopped to make a point of something to them, but all this looking bothered him, causing him to forget, among other things, that he had started it and that he could satisfy it presumably with more of an answer or by saying the thing he had stopped to say; but that was not in his mind either, although it was not precisely out of it, only shadowed by something else. The something else, which seemed to have moved to the front of his mind without his awareness, was the recollection of a scene from a book of Koestler's he had read some time before. The Nazis had put the hero on a table, had taken all his clothes off and pinned him there, and one of them then moved slowly towards him, towards his penis, with a lighted cigar. And the hero, perfectly helpless, could only look at the Nazi, who looked steadily at him while moving closer and closer. But in the end something in the look prevailed, the mute appeal reached the man beneath the Nazi, and the cigar was withdrawn before it burned. But why did he think of this? Who was appealing to whom? Saxl and I got drunk together once, he said to himself; but they wouldn't know, they weren't here in those days.

"I don't know yet," he repeated. "But Louis did a very brave thing, I know that," he went on, remembering. "You heard how he knocked the assembly apart with his hands?"

Some had heard of this, and some had not. The Colonel explained. "The others can thank him for it," he concluded. "It was a very brave thing."

"I have been thinking about that," one of the men said. "I wonder if there's time in a situation like this to act bravely. Please understand me. I admire Saxl greatly, although I don't know him well, but from all I've heard— And then he's very competent with his hands. I've heard stories. As an engineer, I can appreciate that; they're not all."

There were some murmurs of agreement. The Colonel thought of Louis, his hands in ice, lying helpless.

"But it was a very small fraction of a second, and the brain must act on impulses that take—"

"You can say it was instinctive," the Colonel broke in sharply, "but the instinct of a brave man then. I've seen it in soldiers. Sometimes something happens too fast for them to think about it. Well, one runs forward and one runs away. Instinctive, but one's brave and the other isn't."

The Colonel turned and looked down the street, and then across at the hospital, after which he said he must go on. He asked the men if they would mind saying nothing about the accident for the time being to anyone outside Los Alamos, and explained the importance of official notifications, with a word on security and public morale; and would they tell their friends the same? He left them abruptly, in a military fashion, and walked rapidly across the open space and into the hospital.

The men walked on slowly.

"I wonder if the instincts are susceptible to moral evaluations," one of them said after a moment. "I shouldn't think they are, really."

"Did you see what Truman said yesterday?" asked another. "He said the atom bomb destroyed nationalism and started a new and unprecedented age of the soul. Does that clarify anything?"

"I say, look over there," said a clipped British voice.

"Forward to Bikini and the age of the soul," said a dry voice. Several of the men laughed.

"The trouble with the Colonel is he just can't visualize a millionth of a second," the engineer said. "It's very hard to visualize."

"Look over there, I say."

"What is it?"

The men had come to a point across from the end of the hospital; there was a door to the cellar of the building there, half-way back from the front, and a small truck stood close to it. Two men were lifting down a barrel of cracked ice; the ice glistened in the sun, and pieces of it shone from the ground where they had fallen.

"It's for his hands, I guess," one of the men said after a moment. "They must have run out."

"The poor bastard," said another. And then they all walked on, somewhat faster than before and saying nothing.

At the window of Louis Saxl's room the slats of the venetian blind flipped; behind them, for a moment, Betsy Pilcher was visible, looking out into the open space. There was no one in it, all the men had gone, and for half an hour thereafter no one stopped in it, although half a dozen men, walking briskly from one direction or another, crossed it during this time to disappear within the hospital. Later in the morning some of the wives, going to their shopping in the centre of town, stopped by the open space to stare at the hospital, to tell what they had heard, to listen to what others had heard, and to see if, by putting the two together, they could know more than they did. During the noon hour, and several times during the afternoon, little clusters formed again, words were said, silences followed, and the clusters broke apart. Some of the men who had stopped here on their way to work in the morning stopped again on their way home in the afternoon. And late in the afternoon, as the Jemez Mountains to the west of Los Alamos began to show against the sun, the children came walking, running, and skipping along the street, across the open space, down to the pool to play for a while before dinner. As the shadows of the mountains reached across the mesa, lights went on; an unshielded globe on a tall pole burned brightly near the pool, and the yellow glow of it reached to the end of the hospital, growing stronger in the gathering darkness against the windows there. The noises of the children playing at the pool sounded for a while, and then, with the last of the light, the children went, walking and running and skipping away.

## 6

When he turned his head to the right, Louis could look through a window that faced the area in front of the hospital. Even if he shifted himself up as much as the troughs that trapped his



hands permitted, he could not see down into the open space, whence, from time to time during the day, he had heard the murmur of voices and an occasional word. If the slats of the blind slanted in, as they did now, he could see the tops of some trees. If they slanted out, and at just the right angle, the angle to which Betsy had adjusted them earlier in the day, the walk on the far side of the street ran along the windowsill. In intervals between the regular taking of blood samples, two injections of penicillin, a blood transfusion, numerous refreshenings of the ice in the troughs, several talks with David Thiel, one with Colonel Hough, and many with the doctors, not to mention times out for the bedpan, and more for various examinations, inspections, and what not—in the intervals Louis had walked a number of his friends along the windowsill, moving his head slightly up or slightly down to keep their feet aligned. But he had not turned his head or shifted his body to look through this window for some time. The ice in the troughs that trapped his hands had failed to trap the pain which was moving up into his arms; soon, he thought, it would be necessary to mention this. Meanwhile, it was more comfortable to lie straight, and look through, or at, the window directly beyond the end of his bed. The slats of the blind at this window overlapped, and he could see nothing there except a yellow glow growing on the blind as the daylight faded. But he knew the light which cast the glow, and in his mind's eye he could see the pool by which it stood, and the children playing there; he could hear them calling, one to another.

He lay quietly. They had given him some sedatives, but he did not feel sleepy. He felt exhaustion, but he also felt apprehension, and he felt each feeling through the other, and he did not feel sleepy. Nothing they had so far done was new, except for the ice. They had done all of these things with Nolan, except that Nolan had not had ice. He wanted to think about the various things they had done, the new and the old.

The yellow glow penetrated the slats of the blind as though it were trying to reach into the room and enfold him. It was warming. Although both of the windows in his room were closed, he could feel that the night chill had come into the air, and for this

reason too he got some comfort from looking at the glow of light, growing warmer, reaching in. He closed his eyes, and opened them, and closed them again. It did not make much difference; he could feel the glow, and even see it, equally well either way. Watching the glow, listening to the children, it seemed to him that he could remember the sounds and the sight from somewhere else, and years away, but he was too tired to think just where and when. His mind slipped on, and shaped some words. *Some say the world will end in fire, some say in ice; from what I've tasted of desire, I hold with those who favour fire*—He could not remember further, and he lay for quite a long time, not trying to remember, turning these words in his head, watching the glow, listening to the children.

It would be darker in the canyon than it was up here on the mesa; making allowances for that (and putting the words out of mind), he estimated from the quality of daylight coming through the window at his right that the accident had happened something more than twenty-four hours before. He would have to ask Betsy where his watch was. He tried to remember how many times he had been nauseated; four, he decided. That was not good at all. But he had no temperature to speak of, or had had none half an hour or so before (although that really meant nothing this early, not really). As for his blood count—they had not told him what they were learning from the steady procession of samples, and he had not yet asked them, but he would. He would ask Betsy when she came in. And he would also have to ask her to hang his watch up so he could read it from where he lay.

"Ice," he said aloud, "is also gréat and would suffice." Although he spoke softly, almost in a whisper, he glanced at once to both sides of him. Now he was intensely anxious to bring back the rest of the poem he remembered so badly. David will know the words between, he said to himself. But at once he decided he could not ask; it was simply that the gap in his memory annoyed him, but his interest in this poem would be thought morbid. He moved his left hand slightly in the trough and the pain in his arm increased. It was, moreover, an excellent poem. He would

get David to bring him his anthology, and he would get Betsy to read it to him.

After a while he had the impression that the door to his room opened. He could not be sure because he did not want to turn his head to see; and yet, at the same time, he could see quite clearly, in the bright light from the hall, the expression of infinite solicitude at the open door, and even noticed, with some amusement, how it changed instantly to a smile of absolutely embracing cheerfulness, appropriate to airline hostesses and nurses. Because he saw what he could not see, he concluded that he must be dreaming, which bothered him because he intended to stay awake. And yet he could not be dreaming because at just this moment it came to him distinctly that the sounds of the children playing outside had stopped, had indeed stopped some time before. It seemed to him that the quality of the silence was such as to suggest that the children had not gone away, but had simply stopped their sounds, possibly to listen to something. Then he heard a rather high, shrill voice, not a child's voice, calling: "Harry! Harry! Nine o'clock, Harry! Do you hear?" He could not tell from where this voice came; it seemed to come from much farther away than the pond, and yet it seemed to come right out of the middle of the yellow glow of the light by the pond, which had by now succeeded in penetrating the blind at the window and had come into his room and was enfolding him.

In the glow he could distinguish Betsy standing beside his bed. She was holding a jar of preserves towards him, and she was saying: "I have a gift for thee. Did you nap any?"

He heard himself say: "How are the others?"

And Betsy went on: "Crowds of people all night and all day. What are they trying to do? Did you nap any?"

But more clearly, louder than before, he heard the voice calling: "Harry! Nine o'clock, Harry! Do you *hear* me?"

He tried to reach out for the jar of preserves, but a terrible pain in his left arm stopped him. The pain receded; Betsy drew back as though pulled along a rail, her smile faded and the shape of her wavered. He turned to look at her now and saw that she

was about to speak. But she was still a great distance away, and he could not imagine what she had to say to him, because it was not yet nine o'clock, despite the calling of Harry's mother. He knew that when she did speak it would be to say some words that would end in a happening he desperately did not want to happen. But it occurred to him that he might possibly wait this out, possibly even avoid it, if he were to stay very still and say nothing.

"Nine o'clock, Harry!"

Then, although he was not looking, he saw her coming towards him again, still with the jar of preserves. He could tell from the expression on her face that something was up.

"Do you remember that night you found grandpa?" she said. "I never should have let you do it—a perfectly terrible experience for a boy."

Oh, mother, it was long ago, it was all right, I remember. . . . I remember. . . .

Evenings like this.

On such evenings the big, square, boxlike houses, with meaningless cupolas and ungainly porches rimmed by bushes and shrubs, joined the trees to make soft and singular patterns in the dark of Longfellow Avenue. The trees stood evenly spaced in even rows on either side of the street. But some reached out and almost touched above the pavement, and all of them spread back across the sidewalks and made canopies above the lawns, and through the heavy upper foliage shone the lights of random upstairs windows. The lights blinked through the leaves that moved, and shadows moved on the lawns. On evenings like this the porches of the houses held people who sat quietly on swings that creaked slightly, and who smoked cigarettes or cigars that made small and moving points of light in the dark. They talked and smoked, and sometimes called across to the porch next door, and regularly they turned their eyes to the centre of the street, where the children played on a narrow grassy strip that was called the boulevard.

The street lights stood along this strip, two to a block, and in the yellow circles they made after dark the children gathered to

stand and stare, pick at each other, back away, sit down, get up, and play games in which they would run beyond the yellow circles to hide, be found, and come screaming back. The sound of the children playing was the loudest sound in the evening along Longfellow Avenue, and the yellow circles of the street lights held almost all the movement. The cars came slowly down this street, those that came into it at all; from the porches the observant eyes looked out from time to time. At nine o'clock or thereabouts there would come the first call: "Harry! Nine o'clock, Harry! Do you hear?" Harry would have to go home, and the games would begin to end, and one by one the children would all go straggling home. And then for an hour there would be no noise or movement along the street, except for the very small noises and movements on the porches, the barking of the dogs that barked, the crunch of driveway gravel under a car being put away, and the steps of strollers, lost against the trees and the black bush backgrounds. Finally the porches would empty and the downstairs lights go out, and after a while the upstairs lights, and by midnight there would be only the empty yellow circles from the street lights, and no movement at all.

The boulevard was a playground for very young children mostly; after they got to be twelve or so, there were other things to do, and even before that age they had to give up the games, of course, because the only games that could be played there between the porches were games like red light and tap-the-icebox. But some of the older ones went out to the boulevard after supper occasionally. They leaned against the street light or sat on the curbing of the grassy strip and talked, or laughed at the children, or caught them and held them when they came running past to hide. Skip Seago, who lived a block away on Holmes, came around once in a while even when he was fifteen years old. Louis was only eleven then and Skip was his hero; aware of this, Skip spoke to him and didn't tease him much. More than this is seldom found to span the enormous distance that separates the orbit of childhood and the orbit of adolescence. But this evening the orbits shifted and actually came together, touching across the distance. (Oh, mother, do not come tonight. Oh, Skip—)

On this evening his mother stepped down from their porch and walked across the street to the boulevard. He saw her coming over and wondered, because it was not yet time to go in and besides none of the mothers ever walked across, they only called. She came up and he said it wasn't time. She said it was getting close to time and she wanted to walk around to Grandfather Abraham Saxl's house to see how he was getting along; she had a jar of preserves to take; she wanted him to go with her.

A few months before this, Grandfather Saxl had felt a swelling in his chest and had suddenly been drenched with sweat; with the sweat had come a wild fluttering within him, and when the fluttering had gone away and the doctor had left, Grandfather Saxl had changed from a vigorous man of sixty-seven into a frightened and querulous old person.

He had lived alone for a number of years, and even after the attack he continued to live alone. He could and did move around, take care of himself, putter in the back yard, where there was a little garden with a grape arbour, and even take short walks. Louis's mother went over every day, sometimes twice, taking things to eat, and books and magazines. Usually she stayed for an hour or so while they talked of the past, and of the family. The old man did not want to leave his house, and because of her he did not have to. She installed a telephone beside his bed and in the evenings she always called him. But this evening there had been no answer. She had hung up and called again, and again there had been no answer. She had sat by the phone for a moment tapping a pencil against the little table. ("Your father had driven over to Springfield and I knew he wouldn't be back for an hour or more; still—") She did not want to ask any of the neighbours; not yet, she thought, remembering fleetingly how tall and handsome Abraham Saxl had looked only a few months before, with his thick white hair which looked thick no longer. He could be asleep—but in the end she went out to the boulevard.

Grandfather Abraham Saxl lived round the corner on the next street, in a house with an ungainly porch rimmed by shrubs and bushes. His bedroom was on the second floor behind a rounded window that looked out across the roof of the porch;

they could see the light in it as they went round the corner and they could see that the window was half open. They could even see the large framed engraving of ducks in flight that hung on the wall above the bed, but from the sidewalk they could not see the bed, or could see only the pointed posts of it against the wall under the engraving.

"I think we'd better see if there's anything he wants," she said. "I suppose he's just dozed off," she said after they started. Not until they had gone around the corner did Louis sense the worry in her. "I wish your father were back," she said then, and as they walked toward the house looking at the window Louis began to feel the worry in himself. He noticed that his mother looked down at him once or twice, as they walked. Halfway from the corner to the house she stopped, and he stopped beside her. She put an arm across his shoulder and they walked on together. "Grandpa will be sixty-eight this fall," she said, "he oughtn't to be living there alone like that, not well and all." After another few steps she said: "He was the handsomest thing, you don't remember. He wore white linen suits and people turned in the streets to look at him."

There was a street light almost in front of the house, with the lamp painted black on the inner side so it would not shine in the windows. They passed it and went a little way up the walk leading to the porch. It was very quiet on this street; there was no boulevard here and the children who lived here went over to Longfellow to play. The house next door was dark and the porches for several houses around were deserted. In the quiet his mother called softly, and her voice sounded loud. "Father, are you awake? . . . Grandpa?" They waited, and then went up on the porch and she rang the bell. It sounded loud in the house and they stood there for a long time listening. She rang it again and almost at once knocked on the door. "I don't know why he always keeps them locked," she said, trying the door; it was locked. And while this went on he stood a little way back, watching his mother, listening to the sounds.

"Can you climb up on this porch roof," she asked him then.

"Sure."

"I know you can, I've told you not to often enough, but—oh dear." She took hold of him. "Now listen," she said, "you climb up there—and do be careful, darling—try the window that goes into the hall. It may be open, but if it isn't, go through the window in grandpa's room; go right through the room, don't stop to say anything to grandpa or look at anything, and come right down and let me in. Can you do that?"

"Sure," he said. He turned towards the railing where it joined the porch pillar beside the steps, and got up on it; as he had done many times before, playing, he shinnied up the pillar to the overhang, took hold of it, and swung himself up on the roof.

"Come right downstairs," she called.

The window to the hall, he knew, was stuck fast; he didn't even look at it, and first of all he just glanced quickly by the window to his grandfather's room, letting his eyes not quite stop to see inside the room but getting a kind of feel of it, the whiteness of the bedclothes and just the sense of his grandfather lying there, particularly his head against the whiteness of the pillow. Even in this very quick not-quite-look he saw his grandfather's eyes looking out at him, and as he walked across the flat roof to the window he was looking straight into the room and across the room into his grandfather's eyes. He had to push the window up only a little way to get through, and as he went through he looked all the time, not taking his eyes away from the eyes that looked at him from the bed. Inside the window as he straightened up he stood uncertainly, still looking at his grandfather; now he noticed that his grandfather's lips were moving although he could not hear the words. And he noticed that his grandfather was lying half doubled up at the upper end of the bed, as though he had been pushed there and almost as though he were being held there even now. His head was moving, too, forward a little and then back, and then forward again and then back. The old man lay there doubled up and the boy stood there and they looked at each other, and there was no word spoken. The boy looked away in embarrassment, but the embarrassment gave way to fear, and he looked back again, into the eyes of the old man, seeking the source of the fear, fearful to leave it. Still he stood there; he had



simply forgotten to move, and it did not occur to him to move even when he heard his mother's voice, calling something from below and outside. He remembered better than his mother thought how his grandfather had looked in his white suits. And he remembered how he and his father and mother and his sister came over to his grandfather's house sometimes—and, "Who knows One?" his grandfather had asked, sitting beside the table and looking down at him with eyes staring—"Who knows One?" he had said, sitting quietly and expectantly beside the table. "I know One—One Lord of the Universe." "Who knows Two?" And suddenly he turned his eyes away and ran across the room, into the hall, and down the stairs, to the front door, and opened it, and ran up against his mother, clinging to her, shivering.

It had been all right later. Posted on the curb of the boulevard to watch for his father, he had won first the attention and then the whole interest of Skip Seago. As the other children went home to their beds, understanding nothing, he felt like a courier who has run a long distance and is given audience by the prince. Bars were let down while the prince, respectful of youth's valour, moved over and invited him to sit. His mother had cried over him, and the doctor, after he had come, had called him brave, but Skip had understood the great importance of what had happened.

"I know a couple of kids who've seen dead people," Skip said, "but you're the only one's seen someone dying. If he dies."

"He'll die, I guess."

"Well, you can't be sure till he actually does, though. The second attack doesn't necessarily kill you. The third kills you, like going down the third time swimming always kills you. Of course the second attack *can* kill you. I don't know if it counts if he doesn't die tonight, though."

"Yes, but if he dies from this attack, he was dying even if he doesn't actually die tonight, wasn't he? Even if he dies tomorrow or even the day after?"

Skip thought about this, tugging gently at a tuft of grass beside him, while from the porches came the sound of the swings creaking slightly. "I guess so," he said graciously after a while. "I suppose that's right. Anyway we'll have to see. You know,

soldiers on battlefields see people dying all the time. I bet they get used to it. Or race drivers, those little midget race drivers, they see themselves get killed plenty. Do you suppose you'd get used to it if you saw people dying all the time?"

"I bet no one gets *used* to it."

"Oh, I don't know. How scared were you, really?"

"Well, I was really sort of scared."

"Tell me again how he looked there, you know, the way he was lying on the bed."

He hadn't died that night. He recovered enough to move about, although not enough to resume his puttering in the garden. Instead he learned to cultivate within himself the dry but nourishing fruits that grow only on the slopes of death. A housekeeper was installed and the front porch was rearranged so that he could live comfortably on it during warm afternoons and watch the events of the street. Quite often in the days that followed this second attack he noticed Louis and the older boy together on the street in front of his house. The children didn't often come over to this street to play and the fact was that he couldn't even place the older boy. He waved to them from the porch and several times they came up to see him. Although they only stood there, saying almost nothing and looking at each other, the way children do, he enjoyed the fact of these little visits. He felt very happy to see Jew and Gentilé, eleven and fifteen, together, and happy that they would stop their playing long enough to come up and see an old man, and a sick old man at that.

("He was very fond of you, son. There was much of himself in you. He thought—" "I know. We used to talk—when I used to go there—" But mother, not tonight—not—)

They were common heirs of the age of wonders, he and Skip, and their difference in years became a detail lost among the wonders—automobiles, airplanes, radios. Skip fell sick and his family showered him with presents. Among the offerings was a radio construction kit, a beautiful thing of innumerable parts and pieces, a thing for a professional but not beyond the competence of a boy who would forego all other play for a solid month to

deal with it, as Skip did. For this purpose and for this time Skip and Louis were inseparable. It would never have occurred to Skip that here was a fit companion except in the presence of the wonders, but fitness meant love for these, which could be assumed, and comprehension, which proved itself.

And then to his horror Louis found that he was growing bored with the wonders; the thought was beyond credence, and he searched for and found explanations which exalted the things and belittled himself. He lay awake defending his established ways against the heretical encroachment. But from the moment he was consciously aware of the weakness in himself he could not entirely down the nagging notion that he had nothing more to learn from the machines. He would have died rather than confess it; Skip knew more than he did, and so plainly there was more to be learned. If so, grim voices within him said, you just aren't interested in learning. But I am, he cried back, it's only, it's only—

His worship of Skip, not touched at all by the fever of his doubts, saved and sustained him. He continued to be sent home by Skip's mother, working her way through carpentry and wires, and in the end it was not his defection but Skip's: the non-communicable discoveries of life intervened and Skip grew distant. It happened very suddenly, and for a week or so he doggedly went to the Seago house to tinker alone with the radio, sometimes seeing Skip go in or out and sometimes not. Then Skip told him that the project was finished and it wouldn't be necessary for him to come around any more. It was plain that he had transgressed in some way or had been found inadequate, and the bright and shining hours were lost in the hurt. He did not even notice the quiet relaxation of his defenses against his heresy.

And he was hardly aware how often, as time went on, he came to go to his grandfather's house, not now for little visits, to stand and stare, but for hours at a time on the floor with the books of which Grandfather Saxl had more than anyone. He called questions to his grandfather, and tried thoughts on him, and together they tried to understand how there could be such a thing as the

square root of minus one, which he came across in a book one day. They couldn't understand it, and his grandfather made a password of it.

"Say, there, what's the square root of minus one, boy?" he would call from the porch as Louis came up the walk.

"I'll have to read up on that," Louis would call back.

They talked and joked with each other and skimmed the surfaces of many subjects. They were separated by too much to do more than that. His grandfather could not put aside, for very long, a sense of distraction that seemed to fuzz the edges of his mind even as they talked. And his talk would often run out; he would fidget a little, not wanting to, or turn his eyes away, not knowing that he did it. And in a minute Louis, his mind veering out to a paragraph marked in a book from yesterday, would be gone into the house.

The parents of the neighborhood thought him exemplary, and some indeed kept track of his comings and goings with something akin to worry.

"It doesn't seem right for a boy to spend so much time with an old man, even his grandfather."

"Even sick and all. A boy ought to play."

"Of course Jewish families are very close."

"Even so, a boy needs to play."

On the days he did not go to his grandfather's house, he played mostly with Chuck Braley, across the street, who had a big barn behind his house. Here they made pushmobiles, for the barn was full of boxes and old bicycle wheels and a thousand things; and if he had grown bored with the wonders, he had not grown bored with the making of things that could be designed to patterns of his own. In the barn the boys who came and went made pushmobiles, and learned to smoke, and to talk of girls.

But not all of him went there, on afternoons after school, on evenings after dinner. As the parents noted his visits to his grandfather, Chuck noted his absences from the barn, and his withholding when he was there. Because he had a grandfather who had had two heart attacks and might die at any time, he was

granted a certain caste by Chuck; because he was a Jew he was allowed and even required to show differences. But Chuck, he knew, arrived at approximately the same conclusions that the parents did.

Still, by the time he had moved far enough out of the world of the barn and the boulevard for the fact to be noted, he had moved far enough into the world of his grandfather's books to be unconcerned with the noting. The core of this world, the sun and the fulcrum of it, was a set of the Eleventh Edition of the *Encyclopædia Britannica* which had lain undisturbed in his grandfather's house for years. The index was missing and so was the volume LOR—MEC, but this left twenty-seven worlds of the wonders of wonders, beyond boredom, beyond doubts, and, indeed, beyond understanding. In the endless pages Louis proceeded from one entry to another that promised nourishment to his interests, which were so without pattern that anything fed them. Lacking the index, he followed cross-references wherever they led, losing himself in subdivisions and side-alleys: Huyghens, Air Pump, and the Problem of Three Bodies (which see, which see, which see). Full of yearnings but empty of aims, he came eventually to dazzle himself with visions of himself as a scientist of a kind not defined, confronting and levelling mountains of uncertainties to reach truths *re* specified.

And on an evening (like this) he found that there was a harbour for his hopes, and was touched with glory. He found it in a lone volume of Thomas Huxley's *Selected Works*, the survivor of a set that his grandfather had bought in 1895 when he had been looking everywhere for knowledge and had been impressed by the encomiums which the death of the great English biologist had brought forth. Lying on the floor of the front hall of his grandfather's house, just beyond the door where he and his mother had once stood listening to the sound of the bell in the house, Louis read what Huxley had to say from a great yet conceivable height:

"In the course of his work the physical philosopher, sometimes intentionally, much more often unintentionally, lights upon

something which proves to be of practical value. Great is the rejoicing of those who are benefited thereby, and for the moment science is the Diana of all the craftsmen. But even while the cries of jubilation resound and this flotsam and jetsam of the tide of investigation is being turned into the wages of workmen and the wealth of capitalists, the crest of the wave of scientific investigation is far away on its course over the illimitable ocean of the unknown."

Oh, this is where I'll go, Louis cried within himself. He read the words again, and they turned and rose in his mind, and gleamed before him. He kicked himself over on his back and looked up at the light in the dusty yellow shell hanging from the ceiling above him. Far away on the illimitable ocean of the unknown, he whispered, and saw visions of beacon lights in churning waves, the lights turning slowly, cutting sharp paths along the jagged line of the waves, swinging slowly through the night, golden in the black of night, swinging closer and closer suddenly to bathe him there on a wave's crest in their brilliance.

Oh, no! *Oh, no!*

"What are they trying to do? Did you nap any?" Betsy was saying; and then, after a little pause, leaning closer: "Louis? Oh, Louis, let me—"

In the pit of his stomach he could feel the waves tightening and mounting for the break. There was nothing he could do; he could not speak, least of all could he speak. The tightening and the mounting went on and on; and then broke and filled him with the stuff that came pouring out of his mouth, over his pajamas and the bedclothes, wave after wave of it. He heard Betsy's little cry, and saw her hands moving about before him. He saw also, although he did not comprehend at once what it was, one of his own hands—splotchy in red and white, a great blister between two fingers, dripping water. It was held out before him, lifted somewhat above the bedclothes as though it were not to be touched by what was there. It hung against the yellow glow on the blind, and as he looked at it he pushed back involuntarily against the bars of the bed. He tried to speak to Betsy, but, although he could feel his lips moving, there were no words.

Staring at his hand, retching dryly now, he lay half doubled up at the top of the bed, as though he had been pushed there.

7

Throughout the evening of the first day after the accident, Betsy Pilcher sat in Louis Saxl's room, anticipating his wants and needs, attending to them, and, finally, yielding him to sleep. The terrible vomiting with which the afternoon had ended, Betsy decided, might have been a helpful purge; the body must have rid itself of some unknown noxious things. At a little after ten o'clock she went quietly out of Louis's room and walked with slow steps down the corridor, looking in at one room and another. All of the rooms were dark, but voices spoke to her from three of them, asking her about Louis. She could tell them honestly that he was feeling *much* better, that he was resting *very* well. Then she shushed them and moved on. The two night nurses were at their stations, full of instructions. Nobody moaned or cried, nobody tossed. And when Betsy took the starched rustle of her uniform down the stairway, the floor was left to silence.

At the landing halfway down, Betsy stopped to light a cigarette. Turning, she looked back at the dimly lit corridor she had just left; it was only a glance, part of the pattern of habit. She was listening for nothing, and from where she stood there was nothing she could see. Still she stood there, looking up, the cigarette glowing in her hand. From the floor below came a low murmur of voices; although the sound reached her ears, she paid no attention to it. Vomiting, she was thinking—standing like a grace taken form in the dark, the small light from above toning her intent face—was sometimes a good thing. This stood to reason and was a part of nature's way. If vomiting was a symptom the doctors watched for and noted with forebodings in this serious sickness, still it might also be to some extent a corrective of the condition it reflected. Moreover, doctors were known to drama-

tize or to simplify, and to pigeonhole unduly. Everything had turned to the better after that last siege; his apprehension had dropped away, even the pain in his left arm had seemed to diminish, a relief had seemed to enter him. At eight o'clock, an hour after the siege had passed, his respiration was normal, his pulse and blood pressure were normal, and his temperature less than a degree above normal; at nine thirty they were the same. She had read him a poem he had asked for; they had talked about some of his friends and some of her friends; he had made jokes with her once or twice; and he had fallen off to sleep as the sedatives had taken hold at long last. She had watched him for twenty minutes from her chair near the end of the bed.

A door opened on the floor below and the murmur of voices sharpened and bunched into words. Betsy turned her head and now looked down, but still she stood on the landing. She did not yet want to talk to the doctors or hear them talk, and when she did she wanted them to be as few as possible. Some of them, she knew, had been meeting in the doctors' conference room; some at least, she suspected, were now leaving; Dr Pederson, she knew, would stay, and possibly only he.

Of the workings of radiation sickness Betsy did not know much. She had not been at the hospital at the time of the first accident, nine months before. She had not read the medical report on it which Dr Pederson had shown her three or four times. She had only glanced at the endless documents, folders, and photographs constituting the medical findings from numerous surveys of the Hiroshima and Nagasaki areas. She was not in the least a squeamish girl; she could view with equanimity or even with interest the contents of a bedpan; there was little, indeed, in all the muck and dirty work of her profession to which she could not assign some kind of value. But she knew not what to get hold of, or where to look for meanings, in the mysteries of radiation sickness. It did not bother her that she had had no more experience with it than with leprosy or the king's evil; but it bothered her that this sickness was more comprehensible to physicists and chemists than to doctors and nurses, and seemed truly comprehensible to no one. It bothered her that, despite this,



Dr Pederson was considered something of an expert beyond his years and training because he had sat in attendance on Nolan. Most of all, it bothered her that this sickness should have been thrust upon such a nice person as Louis Saxl, and that there was nothing she could think to do about it—except to hold to the possible hopeful significance of vomit. And this she would have to try out on Dr Pederson, who would smile at her.

"The Japanese made no such tests."

Betsy, looking down, still saw no one in the lower hall. But these words came to her clearly from just around the turn in the wall at the foot of the stairway. The soft, non-insistent voice of Dr Morgenstern had said them. Betsy dropped her cigarette, stepped on it, and slid it back into the corner; she withdrew herself a little, but still commanded a peek into the corridor below. She saw Dr Morgenstern appear from just beyond the wall, but at once he turned and went back out of sight. He was a very tall man, four or five inches over six feet, and all of the visible parts of him were large and bony; her mind reported, automatically as it often did when she caught a glimpse of him, the clinical description of his nude figure which Staff Sergeant Robert Chavez, who had seen him in a shower, had once given her. A smile crossed her face but disappeared as quickly as Dr Morgenstern had.

She watched now as Dr Morgenstern came into view again, followed by Mr Herzog and a small, dapper man whom Betsy had never seen before. The dapper man was talking. He had some papers in his hand and he swung them back and forth as he spoke.

"It's an irritating little point. I've read of similar findings in laboratory animals, I know I have, though I can't think where. It doesn't mean anything, I know that, too—irritating point all the same."

Betsy shifted her eyes from this man, whose words meant nothing to her, to Dr Morgenstern. He was the doctor in active charge of the hospital, and it was for that reason that Betsy looked to him. He looked down his nose at the one who had spoken, moved his fingers back and forth, and said nothing.

The three men had come to a stop at the very foot of the stairs. Now Dr Morgenstern looked back along the corridor.

"Coming?" he said.

There was a little extra flurry of sound back there among the voices, a shuffling of feet, the tap of a cane. A voice boomed up, and a softer voice urged it to quiet. There was a texture of noises, of rustling papers and rustling clothes, of someone blowing his nose, of shiftings and movements, and the texture was heavy, of the sort that Betsy identified with men, with many men. But there must be dozens, she said to herself; who? for just what?

"The capture cross-section of sodium is, however, just that much greater than the cross-section of phosphorus," Mr Herzog was saying in his quiet voice.

Betsy had turned her head meaninglessly towards the wall, towards the still invisible source of the sounds. As Herzog spoke she looked back at him, and saw him prod the unknown man with his arm.

"Do you know of any biological factors to account for this great disparity in the case of Saxl?" Herzog said.

"One can only presume certain things," the man replied.

David Thiel came into sight in the corridor. He was walking very slowly, barely using his cane, holding a pamphlet or a journal before him; he was reading aloud, too quietly for Betsy to make out any words, to two men. One was Novali, a young doctor at the hospital; the other was unknown to Betsy. They were listening intently and were matching their steps to David's. And now two more men appeared; she did not know either of them. Then she saw Edward Wisla's portly figure; she knew him, all right, everyone at Los Alamos knew him; but only three or four days ago he had left for Washington—to "tell Congress about the atom, and incidentally about the Army"; so Louis Saxl himself had told her, this evening, only an hour or so ago. She stared down at Wisla, and the unexpectedness of his presence there joined with the unfamiliarity of the other men to alert her senses as though to a danger. Another unknown appeared. All of these men followed each other across the space framed by the stair opening, passing into and out of Betsy's sight, moving to-

wards the door of the hospital, fifty feet along the corridor. Pederson came up, still in his laboratory coat. He waved and turned back again.

She heard him say good-night to someone round the turn of the wall, and then she heard another voice.

"Yes, good night." There was a pause. "You know, we'd better aspirate some marrow in the morning." And another pause. "Good night."

The man who said this, when he came into sight, was struggling with his overcoat. He turned his head, searching for the sleeve, holding his arm up awkwardly. He found the sleeve and straightened himself, looking across his shoulder and then up the stairway as he did so; from where she stood now at the very edge of the landing Betsy saw the flicker of surprise that crossed his face.

He seemed about to say something to her, but turned instead and started down the corridor. And then he turned back, crossing to the foot of the stairs.

"Were you just coming down?" he said.

Betsy nodded her head.

"From where—who?"

"Mr Saxl's room."

The man looked down at his feet, and up again at Betsy.

"You are Miss Pilcher?"

Again Betsy nodded. The man continued to look at her.

"Well—why *don't* you come down?" he said after a moment, smiling a little. He backed away from the stairs, as though to make room for her, and she started down them slowly.

"Is everything all right?"

"Quite all right," she said. She wondered why she answered him so, for the words reflected neither her hopes nor her fears; they were suitable for a relative, but she knew well enough that this one was a doctor. He was even more, however, a part of a procession, a disturbing procession that she didn't like; and besides, she thought, what doctor is he? here for what?

He was smiling again; perhaps he knew her thoughts, or the cast of them. Betsy had come to a stop on the last step.

"Dr Morgenstern asked me to come here. I came in from Berkeley—late—or maybe I'd have seen you before. My name is Berrain. I'm consulting. May I see the patient?"

"Now?" said Betsy, stiffening.

"Yes, now. Will you take me up?"

"He's sleeping, he just got to sleep. He wasn't to be disturbed at all." Dr Morgenstern himself had emphasized this.

"Well, I won't wake him. I just want to have a look at him."

Betsy came down from the last step. She found this phrasing grossly offensive. She gazed at Berrain coldly, detaching him at last from the procession; she noticed now that he had a wart just above the bridge of his nose; she fixed her eyes on that.

"Mr Saxl is not to be 'looked at' tonight. I can't take you up. If Dr Morgenstern asked you here, I suggest you see Dr Morgenstern."

"You'd be surprised how many nurses forget their orders, though," Berrain said at once, "I'm glad you're a good nurse. They said you were. Good nursing's one of the few things we know helps for sure in a case like this. Did you bathe him this evening?"

Betsy had her eyes fixed now on the eyes behind the rimless glasses. Berrain was watching her with great expectancy; his expression made the question seem important; and something he had said made it most reasonable that she should answer the question. What had he said? Why, about the bathing—

"Yes, just lightly, about an hour ago."

"I understand he's very sunburned—tanned, that is. But there's a demarcation? He wore something, I suppose. Could you notice any erythema on the lower abdomen? That is, did you?"

"Well, you know, I didn't really look, I mean I didn't notice," Betsy said, somewhat self-conscious despite herself. "I didn't see anything, but he may have—I mean, I think he thought there was a little reddening."

"You think he thought?"

"Well, I mean, he did say something, more to himself—"

"So? Yes, well," Berrain said, after a little pause. "So how is he? Feeling pretty good?"

"Oh, really so much better all evening. He vomited badly about six o'clock. But since then—it's been just as if—" She took half a step toward Berrain.

"As if it cleaned out some of the trouble," Berrain said. "Yes, well, some of the trouble ended with it, didn't it? How many times was that? Five or six, I think I heard. Well—I've been looking at some of that vomit. Quite a mess. No nausea since, huh?"

"None at all. He was fine all evening. Isn't it possible—?"

Berrain moved his head around, up and down and from side to side. The hair receded on his head, and his face, which was large and fleshy, had an exposed look. His mouth drooped a little at the sides. Betsy had addressed her question and herself to the intentness that she had seen there a moment before, but it was not there any more. Looking at him now, seeing him whole, as it seemed, all of a sudden, she felt exposed herself, for the earlier anger, for the recent reaching.

"You must be pretty tired," Berrain said. "I shouldn't add to your burdens. I'll see you tomorrow."

He moved his arms away from him in a gesture of many possible significances. He said good-night to Betsy and started down the corridor again. But he had not gone three feet before he spoke to her once more, over his shoulder, without turning his head.

"About that vomiting, it may have helped. We don't any of us know too much, except good nursing's very important. The vomiting may have helped—quite possible."

Betsy could think of nothing to say. She watched him enter the small vestibule that led to the door, and again, as he disappeared, he seemed less a man alone than the last one of that procession of men, all of them doctors or very expert people, of one kind or another, from one place to another, brought in to—Twelve men (if you wanted to count Pederson), and seven of them from outside! The size of this struck her suddenly, and—the procession of men still moving across her mind, shadowed by untended memories of parades with bunting and of the beat of dirges—suddenly she was thinking of her walk home from the

hospital in the cold morning of the night before, and of how then, or even earlier, Dr Morgenstern, or somebody, must have been making the urgent calls that had brought Berrain from California, Wisla from Washington, and all the others from their own places. Her calculation was as chilling as the night air had been; from the low rise of her small and cherished hope she saw the ominous, complex reality that grew out of this heavy gathering, but she could not move to it. She turned away from the door, took a few steps toward the doctors' conference room at the end of the corridor, but then stopped. Her head seemed big for her shoulders; she looked at her wristwatch and smoothed her skirt; she had a feeling of foolishness—a trailing of the mood of a moment ago—for having presented to Berrain a notion so simple, but she filed it nonetheless for reference to Pederson, and for this purpose it bulked larger and indeed was larger, for did she not now have the support, of a kind, of a real doctor? But, she decided, she did not want to mention it tonight. Her thoughts carried no further. She did feel tired. She saw the door of the conference room open, and watched, without moving, as Pederson came out into the corridor. He had on his hat and coat.

"I was just going up to look for you," he said.

"Anything wrong?" he added quickly, stopping twenty feet away.

"No. Everything's been fine."

"What was his temperature?"

"Ninety-nine point four at nine thirty, just before he went to sleep. No change since eight o'clock."

Pederson walked towards her. He asked her several questions, listened to her answers, and fingered a loose button on his coat. Under one arm he had three or four brown filing folders, fat with papers and journals; she recognized the grey cover of the medical report on Nolan's case which she had never read. Pederson seemed nervous, even excited. He asked her everything she thought he should have asked, but he was plainly anxious to be on his way, and very soon he was. It had not occurred to her to ask him about the meaning of the gathering whose break-up she had witnessed; she had, in fact, accepted its meaning, or the overriding meaning,

whatever other meanings there might be; there was no question in her mind that the details she fed Pederson were intended for, and would be duly scrutinized by, the whole gathering; and besides, in the space of ten minutes she had moved quietly into place among all the others. It was she, not Berrain or Pederson, who finally brought up the end of the procession as she walked out of the hospital a little later, working the collar of her coat around her neck, shivering in advance against the cold walk home.

But none of this was in her conscious thoughts. She was really very tired, and her conscious thoughts were already laying themselves down, one by one, for sleep—although it did occur to her as she neared her room that Pederson had not, in fact, asked all she thought he should have, for he had said nothing about the reddening of Louis Saxl's abdomen (and if Louis had mentioned it and Berrain had mentioned it, Pederson, of course, should have mentioned it, too).

She wasn't sure of the significance of this reddening; what could one be sure of? But then it struck her with sudden force—how stupid she was! and how insensitive!—that of course the reddening there, in that area, had a most elemental significance, and such a sad one.

"Oh, the poor worried boy!" she said, almost aloud.

But though the thought was sad, it was not the saddest thought possible; and therefore—possibly?—the saddest thought was somewhat stayed by this attention to the other. For would one worry, would a man worry about his manhood, if he despaired of his life? She felt herself to be in the presence of a question that was rooted in mysteries, although at the same time, at this precise moment, the figure that fancy and Staff Sergeant Robert Chavez had distilled for her out of the gross reality of Dr Morgestern stood obscenely on the rim of her mind. But this figure shamed and embarrassed her now, and before it she fled from the halfway thought.

Is he going to die?

Her mind framed the words, but they did not take hold. Because she was very tired, and the night was cold, and sleep and warmth were just ahead of her, and because she knew she could

not trust her answer—and again she told herself: who knows anything for sure?, and accepted it for what she meant—she fled from this, too.

Her heels tapped louder, and her breath came faster, and she hunched her collar higher, and the air was colder, and the last few steps to her room she ran.



## **PART 3**

### **Thursday: *the illimitable ocean of the unknown***

#### **I**

In the dim light of the day just forming, everything is indistinct and some things are illusions. The trees have no colour; they are all one, and are motionless. In the thin air a voice carries a long way and the sound of a mountain lion may be either that or the bounce of a dislodged stone.

Half an hour before, the guard house that blocks the main road to Los Alamos was an island in the night; its lights glowed warmly and were visible even from the valley road nearly ten miles distant. In another half-hour the lights will be out, and the guard house will stand forth for the unpretentious little hutment that it is, built of wood that has warped early. But now it is a bastion, tight and dominant in the empty scene. It stands a mile or so out from the edge of town and a mile or so in from the edge of the mesa where the road comes up. In this moment of dawn

its lights press against the day moving across from Truchas, and are cold as metal. The heavy wire fence which runs off the mesa north and south from the guard house gapes beside it to make an entrance to the town, but the gape is as substantial as the fence in the general greyness.

This fence runs on for many miles, to enclose completely the town, and even the buildings out in the canyons. At least, it is supposed to. Doubtless someone knows for certain—Colonel Hough, or somebody in Washington, or at all events the officer in charge of the military police who patrol the fence, or some of the patrollers. Everyone else knows only that wherever the outlying land permits an approach to the town, there is the fence. It is not a very formidable fence, but it is sufficient to prevent nuisances and annoyances from the idly curious, the local ranchers, and the unlikely tourist away from his roads. More important than the fence are the postings which distinguish it clearly from other fences of this area: "Peligro—Propiedad del Gobierno" and "No Trespassing—Government Property." More important than these are the armed guards, who ride along the fence on horseback, look out over it from machine-gun installations at a number of commanding sites, and man the guard houses, of which the one here on the main road is the most important among half a dozen.

At the heart of the city, where the work is done, is a very formidable fence, fifteen feet high; not an inch of that one is out of range of the machine guns and the observation towers; an untoward move in its vicinity can cause sirens to blow, bullets to spray, and soldiers to run according to efficient plans. Nothing of the sort has happened, any more than the anti-aircraft guns in properly concealed clearings have been fired. For this, one may thank the almost ritualistic pattern of security measures which began with the selection of the mesa and continued on into all the conventional impedimenta of countersigned passes, sealed orders, forbidden movements, secret codes, censored mail, planned deceptions, false information for the local populace, and—even after the end of the war—general surveillance of everyone leaving or entering the city.

Here at this guard house on the main road, during the night just ending, each of the forty to fifty cars that have passed through the gates has first stopped while one of the guards on duty has verified the pass (countersigned) of each of its occupants; usually the guard has smiled and said a few words, for most of the occupants have been known to him. Six big trucks have rolled up, their brakes shushing, and have stood with engines softly roaring while their drivers have declared themselves, have been noted, and waved on. The Director of the Division of Theoretical Physics, a very eminent man and a resident of the town for three years, forgot his pass and had to drive himself, his wife, and two friends back to get it; the guards apologized, there was some grumbling, but everyone knew it had to be done. At three o'clock in the morning the telephone in the guard house rang; it was Colonel Hough, saying that one Dr Jacob Briggles had landed at Albuquerque on a flight from Chicago and would be driving up in a military car, and was to be admitted; a special pass to accomplish this arrived at the guard house by jeep thirty minutes later.

In the morning the Security Office will receive a brief report on these events of the night. It will note, before it files, the theoretical physicist's forgetfulness; it will have checked already Dr Briggles's movements; it can learn from the guards, if it wishes to, even such details as that one horn on Dr Klaus Fuchs's car stuck as he was returning from Santa Fe, and one of the guards helped him to unstick it.

But in this moment of dawn the area around the gateway to Los Alamos seems deserted. No one is visible in the guard house, whose door stands open; no one is around the military jeep, which stands a few feet inside the fence. The lights touch no one, and the silence—save for a barely perceptible throbbing sound, hardly more than a vibration in the air, from the direction of the town—is complete. The birds are not yet awake; there is no wind.

The moment passes with six explosions. Two make rather muffled, thudding sounds, one sends a spinning crack across the mesa, and the last three are high, thin, and sharp, as though they pose a querulous question. The sounds come from some miles away, to the north. They die off, and again it is silent.

But it is possible now to make out two figures, standing by the side of the road just beyond the arc of the lights from the guard house. They are facing the shrubs and trees that begin a little way back from the road. The thin beam of a flashlight suddenly streams out from them, moves slowly back and forth, holds steady at a certain point, and then suddenly goes out.

"I can't rightly say it was a mountain lion the other time, either," one of them says. "Can't say for certain I ever heard a mountain lion. But it was a mean noise, meaner than this one. I had my gun out. Right over by that tree yonder."

"So let's get back. Leave the mountain lions to the mountains." This voice is irritable.

The flashlight goes on again; its beam runs along the road, intersects the arc of the guard-house lights, and loses itself there. The figures start walking; the beam bobs for a few feet and again goes out.

"Nothing to be scared of," the first voice says. "They don't come up on the roads, not around the lights anyway. The explosions probably scared her away."

"Maybe it was a dog or a deer. Or a rock even. They make funny noises sometimes, rolling."

The lights sharpen the figures in front; they walk in towards the guard house like actors moving downstage; they are soldiers, and each of them has a revolver at his side. One of them is swinging the flashlight at the end of a leather cord or strap; the other, walking a step or two behind, is munching a sandwich; he is wearing cloth gloves, and crumbs from the sandwich stick to the material.

"There was a guy home got killed by a rock once," the sandwich-eater says.

They walk on as before. They come up to the guard house, just outside the door, and there the soldier in front stops and turns.

"Well, so what happened?"

"You left the door open, for one thing," says a voice inside the hut.

"He got killed, like I said."

"I know you said it. How, for goodness' sake?"

"By this rock."

"Will you shut the goddam door, in or out?"

The one room of the guard house is very plain. Three unshaded light bulbs illuminate it. Coats, hats, and a variety of odds and ends hang from nails in the walls, covering a small part of the clippings and pictures and mimeographed notices that overlap each other around the room. A soldier is lying on the floor beside a desk; his head is almost touching a kerosene stove, which stands against one wall. He is playing cards with himself, and he does not look up as the other soldiers come in. But they bang shut the door, and he grunts.

The soldier with the flashlight is glaring at his companion, who munches and looks down at the card-player.

"The rock bit him, maybe?"

"Bit who?" the card-player asks.

"The rock rolled, like we were talking about. He pushed his little kid out from the way of it."

"Who?" the card-player demands.

"Fellow back home," Sandwich says. "He pushed his little kid away, but he got killed. This big rock rolled over him."

"I've heard about cases like that," the card-player observes. He still has not looked up; he is playing from the pack to seven rows of cards aligned in front of him, and he moves his eyes from one row to another as he turns up each card. The soldier with the flashlight, satisfied or bored by the further information concerning the man and the rock, has taken a stand beside the card-player and is bothering him by swinging the flashlight slowly in a circle over his head. The other soldier still stands just inside the door, watching these two; he has not removed his gloves, and from time to time he licks a crumb from them.

"If I only get the six of diamonds I'll go out," the card-player says. "You hear about cases like that every once in a while," he continues. "Sometimes they both get killed. There isn't anything you can do about it. It's like with a bullet, if your number's on it. Will you quit swinging that goddam flashlight?"

"I don't know about that," Flashlight says; he raises the in-

strument a few inches but continues to dangle it over the player's head. "If you don't go running in front of rocks and bullets you don't get hit. Sometimes you maybe haven't got a choice. Otherwise—"

"Sure," Sandwich says, "if it's your little kid, you haven't got a choice. I don't know about this num'ber business, though. One guy may be faster than another. Accidents happen, they just plain happen."

"Who's to say they're accidents?" The card-player raises his head. "Who's to say they could have turned out different? You can tell us all about these things?"

"I don't know whether he can, but I can tell you about some of these things," Flashlight says. "I guess some other guys can tell you about some other things. But you take, for instance, coal mines, where guys used to get killed by the thousands every year, and not because their numbers were up. Put in some inspectors, pass some safety laws, keep the union strong and your eyes open—and, by heaven, the men don't get killed as much, not by a damned sight. I can tell you about that."

"They still get killed, though," says the card-player. "I got no objection to taking precautions. That still leaves plenty of times when the precautions don't do you any good. You think people run their lives, but they don't."

"As for that guy," Flashlight says, "he could have been faster or he could have been slower. In either case things might have turned out different. Also, he could have just yelled. Why didn't he yell? He had a choice."

"He did," says Sandwich. "He yelled all the way, but his kid didn't pay him no attention."

"Somewhere along the line he had a choice."

"You can say so afterward."

"I'll break your head, so help me, if you don't put that flashlight up," the card-player grumbles. But it is not really more than a fly to him; he is only annoyed, and the soldier swinging the flashlight continues to dangle it.

"You find out a whole lot of things afterwards," he says. "But who's to say you couldn't have found them out before if you'd

thought to? Anyway, who runs people's lives? The six of diamonds?"

"Truck's coming," Sandwich says.

All three of them turn their heads towards the faint growl which reaches them from some point beyond the edge of the mesa.

'Call it what you want," the card-player says, resuming his play. "It's something that ain't people anyway."

"Do you guys know what you think you're arguing about?" Sandwich asks.

"Mysterious forces," says Flashlight. "It's no argument. Some people just like to get their answers without asking any questions."

He lets his flashlight tap the card-player lightly on the head, and then he walks over to a window and looks out. It is quite light by now.

"It's probably one of them from the Quartermaster up at Denver," Sandwich says. "Three more tons of frozen boneless beef. No fresh meat in three weeks. Who won the war?"

"But about that fellow and his kid," Flashlight says. "What was the situation with this rock? Couldn't someone have known it'd roll? You've got to know things like that. Maybe somebody was blasting, like at a quarry, close by. Huh? Maybe he was plain negligent, letting his kid play there."

"Accidents just happen. You don't have to get fancy about it. They just happen, sometimes."

"Nine times out of ten it comes down to who they happen to. There must have been other guys with kids in your town. Why—"

"It comes down to who's where the accident happens. It might have been other guys, but it *was* this one. Lichty. That was his name. A very bald guy, about the baldest guy you ever saw."

The card-player is pulling himself up from the floor; he struggles up until he is squatting on his haunches, looking down at his cards with disgust.

Sandwich, watching him, reaches into the pocket of a field coat hanging on the wall beside him. He brings forth a paper sack,

and from this takes a sandwich to replace the one he has just finished. He turns to the door and opens it.

"Some guys," the card-player says, lifting himself to his feet, "get so hopped up asking questions they never see an answer even if it hits them in the face."

The truck's growl has become a roar, and the truck itself is now in sight on the road. It is a big Army trailer truck, coming up slowly, with spits and sighs from its air brakes. It rolls to a stop just before the gate, and all three of the soldiers from the guard house walk out beside it. There are three soldiers in the truck, too, sitting high in the cab. Papers are produced and examined; the soldiers in the truck are tired and bored and do not say much. But after the driver has started the truck moving again, he stops it and, leaning out of the cab window, calls back.

"Say, what happened up here? Heard some guys got killed in an explosion!"

The soldiers on the ground look at each other.

"You hear stuff all the time," says the card-player. "Nobody killed I know of."

"There was an explosion, I heard. Six or seven guys killed."

"We got explosions all the time, for heaven's sake—half a dozen this morning already."

"I heard them, I don't mean those. This one I heard about killed some guys. An accident."

The soldiers from the guard house look back and forth some more, shrug their shoulders, and protest that they know nothing of this at all. The driver of the truck pulls in his head, and the truck moves on again, along the road into the town.

"Somebody said no talkee," the driver remarks.

"So what do you expect?" says the soldier sitting next to him. "The Army's going to keep you informed?"

"Nope, not me or anyone. But not everyone's as bright as me and you. Everybody don't know that."

At the guard house the three soldiers talk about the accident for a moment.

"Those bastards was just trying to pump us," the card-player says. "We'd of heard if anyone got killed."



"Maybe so and maybe not," says Flashlight. "The Army's sending you bulletins?"

"They heard, didn't they?"

"Sure, everybody's heard something. That wasn't what you asked."

"I didn't ask anything."

"It'd be a funny thing," Sandwich says, "if a lot of guys got killed right here and these characters from Denver knew about it before we do."

"They didn't get killed, you damned fool," Flashlight shouts at him. "You said yourself you saw them getting out of the ambulance."

"Well, it must of been them. I don't know them. It must of been them."

"They could of died since," the card-player says. He looks with bright, interested eyes from one to the other of his companions.

In the truck the driver leans across the wheel. One of the men is dozing. The truck rolls quietly along the straight, smooth road, past the first of the town's buildings, small, two-family houses fronted by identical little yards enclosed by identical low white fences. The soldier next to the driver lets his eyes inspect the houses, each in turn, and listens after a fashion to what the driver is saying.

"—but if Einstein's for it, I'm for it, too. I never heard a mean thing about him. A lot of those other scientists are with him. Two hundred thousand bucks they're trying to raise for public education about atom bombs. I sent five so's I'd feel better than I do, but I guess I still don't. The little guy don't know what he's up against, no kidding. Educate the public! Make us all see what we got hold of! Oh, dear heaven, my oh my! What've we got hold of? Power of the universe, biggest thing since fire. That's what the scientists say. World's best bomb. That's what the military says. Hell, two hundred thousand bucks won't do the military out of the world's best bomb."

"I never send money for stuff like that. It's a waste."

"I read where one of those scientists says they ought to take

the bomb around in a road show, kind of. Have an atomic explosion outside big cities and invite people to have a look. That'd scare their pants off, this guy says. But it wouldn't. Half wouldn't show up and the other half'd run around punching each other. 'Boy oh boy, look what we got hold of!' That's what they'd say."

"I never could see what they invented it for if they're so against it. They do a lot of talking now."

"I don't know as they set out to invent a bomb. Anyhow, I get the idea they're mostly against the military having all the say. That way you'll only get bombs. How was they to talk before, for Pete's sake? You don't talk like that on Army time."

The truck is passing a campsite for caravans. There must be two hundred of them, arranged roughly in rows, clean and polished and ready to gleam in the sun which will soon surmount Truchas. Little yards have been staked out in front of some of these, too. There are camp chairs in groups, and ordinary chairs as well, here and there; and flowers in homemade boxes set against the streamlined caravan windows; and clothes left on lines from the day before. Beyond the caravans the road branches; the main part of it goes straight on into the centre of town; the white end of the hospital can be seen three or four blocks off. The branch leads away to the left, to the south, towards a mass of cement-block buildings, Quonset huts, and standing trucks. The driver straightens, gripping the wheel for the turn.

"Like those guys killed in this accident here. This is where it happened, but there ain't to be any public educating here if the Army can help it. I'd be real curious about it if I didn't know the Army."

At the guard house the three soldiers are finally sure that the men could not have been killed; certainly they would have known of this.

"Even if they die now," the card-player says, "that's a different thing from being killed right in the accident. There's more than just this accident, anyway, there's all that's been happening since, like these doctors coming in."

"They didn't know about that," Flashlight points out. "You

wouldn't have doctors coming in now if they got killed then."

But what they know is not enough to sustain this topic for long; none of the three knows any of the men involved in the accident, except as faces in cars, and only Sandwich saw them in the ambulance; the meat of this has been eaten and digested already. Flashlight is anxious to return to his argument.

"You say you got no objection to taking precautions, and then you say precautions maybe don't do you any good. So how do you know where they do and where they don't? There's a place you got to ask some questions if you want an answer to mean anything. Like with this friend of yours, what precautions did he take?" He speaks to Sandwich. "Do you know or do you have to guess?"

"Don't know what he could have taken."

The sun appears; the trees move in a morning breeze; the birds are speaking; and this talk at the guard house goes on, interrupted from time to time.

Five young men drive up in an old Army passenger car.

"Quite some thunder this morning," says Flashlight.

One of the men in the car smiles wanly, as at an old joke.

"But no rain."

The soldiers look after them as they drive through, and on into the town. The car is pulling a small two-wheeled metal cart behind it. This cart, the soldiers know, holds measuring instruments of one kind or another. They have seen it, and others like it, hundreds of times—and have heard a thousand explosions between the goings and the comings of the carts.

The scientists returning are quiet, as they usually are. For what they have been measuring their eyes are poor judges and their ears no good at all. The instruments in the cart, when they are opened and read in half an hour or so, will provide some answers and pose some questions, from which much talk will start. This afternoon there will be meetings; tonight there may be work in the machine shop; tomorrow there will be more explosions.

At the bend in the road, where the frozen boneless beef turned off, the passenger car starts to turn, slows, then swings back onto

the main road again. It moves ahead through the town, moves slowly past the hospital, and takes the turn to the left, to the Technical Area just beyond.

At the guard house Dr Jacob Briggles has arrived.

"Briggles," he is saying to Sandwich.

"Jacob Briggles," Sandwich says, looking at the paper in his hand. He still has on his gloves and there are still some crumbs on them.

"Yes, Jacob Briggles."

"M.D."

"M.D., yes," the doctor says in a tired voice.

"They didn't get killed, did they, in that accident?"

The driver and the other two soldiers turn to look at Sandwich, and the doctor sharpens his look. He stretches his neck and runs a finger under his collar; and again looks at the soldier.

"Is that part of the routine for getting through this goddammed gate?"

"Are we clear?" the driver asks.

All three of the guard-house soldiers nod.

"No, nobody was killed," the doctor says, in the same tired voice. The car goes ahead fast.

The first bus from Santa Fe is waddling up over the crest of the mesa. This can go straight through, for the soldier driving the bus has checked the passes of the civilian workers who are his load. But the bus stops when it gets to the gate, and the driver opens his window and leans out.

"Saw a mountain lion back there!"

Several of the passengers nod agreement. One indicates with his hands that it was a big one.

"Just over the rise. Did you see it?"

The soldiers on the ground are looking at each other again.

"Well, take care," the driver calls down. He grins, waves his hand, and gives his attention again to the bus, which pulls forward slowly.

There are about fifty people on this bus—mechanics, carpenters, store clerks, filling-station attendants, and others. From a seat beside a window at the back the girl from the telegraph

office looks out at the guard-house soldiers as the bus moves past them. Several hundred more of the town's maintenance population will be along on other buses which have already left Santa Fe or soon will. Still more will drive up in their own cars. Some will come from Espanola, the little Spanish town fifteen miles or so off to the northeast. A few, domestic workers mostly and mostly Indians and Spaniards, will come up from the ranches and pueblos that lie between the mesa and the river, and some of these will come by foot, over ancient trails. The sun is brilliant now. Every object in the landscape is sharp.

## 2

Even from three or four blocks away the grinding of the trailer truck's gears at the turn-off reached the hospital; the sound rippled along the building walls and moved the windows to tiny buzzes. It flowed in under the half-open window which looked out towards the pond from Louis Saxl's room, and within the room it lifted one veil of sleep from the sleeper. Vaguely he heard the soft sound of the passenger car with the slightly rattling cart, which otherwise would surely not have penetrated to him. The residue of the drugs from the night before thickened his perceptions; it seemed to him, and yet he was not sure, that another car followed this one, or that this one went by twice. The pricking of the uncertainty, so slight a thing, became a step for wakefulness. And yet a moment passed during which, from the threshold to which the step had taken him, he looked backward, or down, like a person going in one direction who pauses to peer in another at some small event—a boy running, two boys talking, cars passing—irrelevant to his progress and hence no obstacle, but a claim on his attentions if they are not wholly fixed. Aware of his room, of his bed, of himself in general, and most aware that a part of himself was trapped in some circumstance to which, in another moment, he would have to give his whole attention—he

lingered still, quite consciously postponing that other moment, isolating from the shadows of his visions of the night before this casual cap to them, this wholly simple pantomime, this way of waking—

"Did you hear about Ives Coleman?"

—nothing more.

They were walking along the sidewalk that led to the high school. Dr Coleman's car passed; it was an old car and it rattled slightly.

"Did you hear what Ives's father told him?"

There was something quite important in this, for his friend was walking half sideways, the better to watch his reaction. Pointed one way, proceeding another, he waited for Louis to answer. His excitement made him seem a younger boy than he was. He was only a year younger than Louis and he was almost Louis's height, but he danced along, intent and awkward, as though he were no more than ten or eleven instead of fourteen.

"No, what about?" Louis asked.

"Hah, wait'll you hear. Didn't you hear, really?"

"I didn't hear anything."

"About his father, what he said, he said Ives could have his choice."

"Choice of what?"

"Didn't you hear, really? I heard about it yesterday."

"Well, what? What're you talking about?"

"College or a car," said the dancing boy triumphantly. "Ives can go to college or have a car, any car he wants. His father said so. He can take his choice. Didn't you really hear?"

"Did he really say that?" Louis looked at his friend in astonishment. "That sounds screwy. How do you know he said that?"

"It is not screwy. He said it. Everybody knows it except you. Anyway, that's what he said. That's something, ain't it? What would you take if you was him?"

"College," said Louis, thinking of that, but thinking also of Ives and Ives's father and this strange choice.

"College! Well, maybe, but I mean if you took the car, what kind?"

"But I wouldn't take the car. That's crazy, Chuck."

"Says you. I bet Ives does, though. I bet he isn't the only one would, either. Anyway, if you *did*. What would you take if you *did*, just supposing?"

Louis refused to pick a car, and his friend picked several, baiting him with wonders, chafing at his perversity. They walked a block in silence.

"I'll tell you what that choice is," Louis said then. "These cars and stuff are just flotsam and jetsam of the tide of scientific investigation—" he looked quickly at his friend out of the corner of his eye—"the wages of workmen and the wealth of capitalists. But at college you're on the crest of the wave of scientific investigation—" he paused, but he didn't turn his head at all—"far away on its course over the illimitable ocean of the unknown."

"Oh, brother!"

"That's true, though. It sounds that way because it's out of a book, but it's true, though."

"You and Old Fatty Oliver."

"Oliver's OK."

The other boy started his sideways hopping again, looking at Louis with a mocking expression.

"Old Fatty Oliver thinks you're OK, too. Old Fatty Oliver said you're real bright. I know something else Old Fatty Oliver said, too. Oh, those great big beautiful eyes!"

Louis reached out an arm and pushed the boy backward, and took a step toward him.

"Don't push me."

"Well, don't say that."

"Take it easy who you're pushing."

They walked nearly two blocks more in silence, and this brought them within sight of the campus of the high school on the far side of the street. They could see boys and girls going up the walks that led to the doors, and several little groups standing on the lawn; they could tell from the look of things that the first bell hadn't rung yet. Suddenly Chuck was running ahead.

"See you later," he called back.

Chuck ran down the sidewalk until he was nearly across from

the school, and then he cut across the street and up to the lawn, up to a little group of four or five boys. Louis slowed down until he was hardly moving at all, looking hard to make out just who was in the group. Abruptly he turned and crossed the street; shielded by the houses that ran right up to the school lawn, he could take his time and walk any way he wanted to; he extracted one book from the three under his arm so that he could swing it around, or whack his leg with it, or balance it in his hand for the fun of it. He dawdled along until he heard the first bell. By this time the lawn was in view again, but all the groups had broken up, and Louis didn't see anyone he recognized especially. He half ran across the lawn, tossing the book like a football.

Louis turned in his bed, or started to turn. Something held him, and it was to this, it occurred to him (but not strongly), that his attention should be going. His eyes opened, and the slight rattle of the cart and the distant din of the passengers getting out of the Santa Fe bus two blocks away were fading, together, from his ears. But he could still feel the book in his hand. His eyes closed again to a white slit, through which he saw that Betsy had hung his watch where he could see it, at the foot of the bed, where now he noticed not the time, but—with some embarrassment that he was letting himself continue with what was surely a meaningless remembrance (a *divertissement* at least, which, however, was not meaningless)—the massive figure of Miss Oliver, walking ponderously toward him. She was speaking, and her fingers touched the strung pieces of coral or amber or imitation pearl (or jade) that always she wore, moving among them in a way suggestive at once of the abstraction of a mother and the passion of a girl.

"Sometimes I wonder if people really know what science is about. You'll know a little, I hope, and that's a consolation."

It was really difficult to tell where, between being asleep and being awake, he was. He smiled at the words, remembering them from long ago but not able to remember from one instant to the



next whether he had actually heard them now. Then he closed his eyes altogether; and it was as though Miss Oliver had been real and he had shut her out. He looked into the nothingness which supplanted her; and it was as though he were a child again, looking into a pitch-black room which might contain anything. The sense of embarrassment, and the earlier feeling that he would indulge (or be indulged by) this safe, amusing incident, dropped from him, leaving an emptiness; although something was not right about the feel of the book in his hand; and a thing he had seen, at the foot of the bed (but not the watch) or perhaps at the side, was not right; his lazy review of a small incident, well remembered, was not going quite as it should. But into the emptiness, pressing down these feelings, filling his eyes, came Miss Oliver.

Her hair was copper and silken and coiled with care.

"You'll know a little, I hope, and that's a consolation. At least you'll know better than to think a man just says to himself, well, I guess it's about time we invented the blast furnace, so I'll just discover one of nature's secrets—presto!—just like that! My heavens, why do people have such thoughts, because they do, almost like that, th. put the cart before the horse. It says it the right way in the Bible. Some of you ought to remember, I should think—"

Everyone liked Miss Oliver; even the pupils who only stared as she talked to them, even the ones who called her Old Fatty Oliver behind her back, even the parents who, from time to time, started moves to replace her with a man who would direct the science teaching along practical, vocational lines and maybe coach baseball or basketball on the side. Stirred by the wonders of the twenties, the parents, who had once compressed science in a textbook like a faded flower, had come to see it as a bloom once you got it out of the textbook and called it engineering. And it was widely held that a woman had no business with this. Miss Oliver, it was known, had become a science teacher out of tribute

to Marie Curie; she had been taken on at the high school, it was understood, because she had been the least expensive of three candidates. Both events had happened many years before.

"—in the Book of Job, Job says: 'Speak to the earth and it shall teach thee.' That's what the great ones did. That's what Lavoisier did. Why, that's exactly what he was doing when he first did this experiment you're doing right now. Speak to the earth! He was trying to find out what happens when fire burns, and if anyone could make use of what he found out—they always can, too, these great discoveries are very practical, they're *very practical*—well, let them. He should care, let them. As for him, he was trying to find out what happens when fire burns. Heavens! Isn't that enough?"

The high school was not heavily endowed with laboratory equipment, nor did Miss Oliver make very effective use of what there was. Still, this was one experiment she liked to watch her class perform. She liked to walk among her students, none of them older than eighteen, mostly boys but some girls too, and think to herself how any one of them, even the slowest of them, even the ones who would have forgotten everything before the sound of the bell ending the class had died away, was closer to a truth of nature in this moment, sitting at the single laboratory table, burning tin to make the oxide, than any scientist who had lived up to the time of the Revolutionary War. She wanted them to know that this little experiment, or one much like it, had made a revolution in the minds of men.

"Where would we be if it weren't for these men who just wanted to know? No blast furnaces, I can tell you that, no furnaces in the cellar either. What a lot of strange notions people used to have about fire, not so awfully long ago, except I suppose it seems like forever to you. Most of them came from the Middle Ages and before, from the alchemists and the practical men, the metal-makers. The practical men! Indeed! It took a scientist who just wanted to find out about fire to set things straight."

She walked up and down the room talking not so much to her pupils as into the air, as though the air would fill itself with what she was saying and the boys and girls would breathe it in and

not be able to escape the truths she so much wanted them to know. She had responded early to the long linked sweep of science, and having glimpsed the whole, she hadn't bothered with the parts. Her pupils listened with relative attention, and the things that were confused or overlooked were not so important as the things that were set straight.

"For centuries people just guessed about those things, fire and combustion. There's nothing wrong with that, either. There's been a good deal of guessing in science, let me tell you, and not all of it very good. But if you're going to speak to nature, the important thing's to speak. Sometimes half a guess gets half an answer. There was a man who lived a long time before Lavoisier, he almost figured it out. I can't think of his name now, he died young, but he did, and so did some others. I must tell you something Isaac Newton said, he said: 'I could see so far because I stood on the shoulders of giants.' You should remember that. The great ones were helped by others all the time. It's always like that. They learn from each other."

As reverent towards the Word as a mystic and as impatient of detail, Miss Oliver marched her pupils past whole rooms full of stored knowledge and brought them out to vistas too great for them to grasp—then, at least. Louis watched her, walking up and down, heavily, speaking to the air, fingering the coral (or the jade) of her necklace. And suddenly she looked at Louis, sitting sidewise on his stool at the laboratory table, his face intently turned to her, and spoke to him.

"You see what I'm getting at, don't you, Louis? Say it in your own words, won't you? Tell us what this means."

"Well," he mumbled finally, "these discoveries, like you said, they—I mean lots of people share—what you said."

That she had embarrassed him, he knew even then, didn't occur to her. She was disappointed, as she had been many times before. But she went on, as she always had.

"Oh, children, children, remember some of these things that great men did, not for anything except to find out. These are the realest things of all, the very most of all. These experiments, why, they're questions people asked, and what they found are the

answers we live by, they're just that. Speak to the earth. There's a lovely poem by Tennyson:

*Flower in the crannied wall,  
I hold you here in my hand,  
If I could know what you are, all in all,  
I think I should understand,  
I think—*

Oh dear, I never can remember how it goes. Do any of you know?"

No one did; or at least no one said he did.

But the bell rang and the classroom started to empty. Louis went up to her, opened his mouth to speak, shut it, stood there, and then spoke rapidly.

"I read that poem you were saying and then just now I was thinking about what you said, but there's something in the poem I don't—I mean, he says, Tennyson says, you hold the flower and if you could know—but that's not the point. The flower's not going to tell you, you've got to know what you want to find out, don't you?"

Miss Oliver laughed. "Well, yes, you do, but there's never been any lack of questions. They're, oh, so many things we still don't know, things we're trying to find out. You know some of those things."

"Yes, I know, but what I mean is different. I mean, aren't all the answers to everything just *there*—all around, waiting? Isn't the important thing knowing the questions to ask?"

"Why, yes, I suppose you could put it that way." But she was puzzled. "You have to know what's gone before, though, I think—you know, earlier answers to earlier questions, if you're going to know what you're after. Don't you?"

"Yes, I know," Louis said again. "But you're telling us how real discoveries don't just come from getting a lot of facts together, even if you have to do that, too. But then you have to interpret them, and then you have to get to the right next question. I mean you have to ask a question, or you make an experiment, whichever, that jumps ahead, sort of. Don't you see what

I mean? You've got to do what brings out the answers. The poem says it backwards. It's the questions that are the important things, not the answers. It's the questions. Don't you see?"

They stood for a moment, with this halting, half-shrewd, wholly exalted statement of the scientist's mission hanging between them, and then Louis murmured some words and ran out of the room—

If I forget thee, oh Miss Oliver, he murmured now, or seemed to murmur.

What happened really, then?

—into Chuck and the others on the lawn, and the jokes.

At the foot of the bed the watch: "Grandpa wanted you to have this, son. It tells good time, even now."

And on the window ledge, the one overlooking the pond where the children played, someone had put a flower in a pot.

What happened then?

"He goes up and has these little private talks with her all the time. He waits till everyone's gone and then he goes up and has these talks."

"Oh, those great big beautiful eyes!"

"That's what I hear."

He kicked his legs straight out (and got rid of the covers more easily than he had expected; now, soon, if he could work the hospital gown up, he perhaps could see what he had to see). He pushed himself forward into a hard dive at Chuck (but he must move easily for a reason which he would have to investigate soon), who jumped, and, hopping and jumping, made a wide curve out over the lawn, shouting:

"She said he had pretty eyelashes! Ask him what she said about his eyelashes! That's what she said!"

What happened then?

On the quiet lawn the faces were quiet, and the lunches uneaten; as when a dog lies dead the dogs come running for miles to sniff; on the quiet lawn Miss Oliver stood sunning herself massively, not looking.

What happened then?

"Jew eyes!"

But it was not of a flower, of a truth, of a thing.

"Jew eyes!"

Not of a boy, of a man, of a person.

Why? Of what? (The questions.)

Of a door that no longer opens. The watch ticks and the flower stirs.

On the quiet lawn, he walked slowly, loudly saying:

"I don't care what Old Fatty Oliver says. What Old Fatty Oliver says makes no difference to me," his face reddening, his whole body reddening.

The watch ticks and the sleeper moves his legs and his whole body, the better to see.

But the boy turns at the edge of the lawn, and his eyes are burning hot, bright as suns. The watch ticks and the questions are like flowers.

If I forget thee, oh Jerusalem,

Let my right hand forget her cunning,

Let my tongue cleave . . .

If I forget thee, oh Miss Oliver . . .

The boy walked straight on across the lawn, away from all of them, but the eyes stayed, bright as the ceaselessly questioning eyes of the laboratory animals, searching for choices among their instincts and the doors that may or may not open.

Why? (But not all questions are answered and not all are worth asking.)

He walked on and kept on walking, although the eyes, hot, bright, and burning, are soft with hurt, are liquid with shame, and do not move. The question is: does this door (with the flower on it) give?

As red as suns the eyes are, of the uniform deep red colour of the erythema of the abdomen which came to Nolan beginning about the third day (not inconsistent with a radiation dosage of the size computed) and did not ever go away; "the cutaneous reaction of the torso in this case presented some interesting features."

The watch ticks; the eyes turn and it is not possible to see what they see, or what is at the center of them (guesses may be made, but not always); the sleeper moves and the gown creeps up.

The eyes open, and the watch on the end of the bed and the flower on the window ledge fill them.

From down the street two blocks away the distant din of the passengers leaving the Santa Fe bus is dying away.

The watch says that it is not quite seven; the flower is white and it sleeps; the bedclothes have been pushed down to the end of the bed; the gown has been pushed up far enough so that the legs show, but not far enough.

### 3

For some little time after he awoke fully, Louis lay quite motionless on the bed, his bare legs drawn up, the gown crumpled in a heap over his middle. His body moved only with his breathing, which was heavy from the exertions he had been making; his recollection of these was not clear; he had been too deep down in the lode of sleep that had figured his waking—but what nonsense and nostalgias there! what a way to wander with so much to put one's mind to! how durable the old wounds were!

He tried to raise his head, to peer over the folds of the hospital gown. But they were too high, the gown would have to be worked back farther; and he made another attempt, sliding his body down the bed and then sliding it back; the gown shifted and moved, but ended up almost as it had been. He would get to that in a minute; in a minute he could do it, for his mind had measured a gain: he did not this morning feel tired as he had felt tired yesterday—bone tired and jangle weary, his mother sometimes said. The influence of the drugs was in him, but he could isolate that; it was superficial and a cup of coffee would dispel it. The bare thought of a cup of coffee yesterday would have sickened him. But that sickness, too, had passed. He felt

well enough, only embarrassed from his thoughts, a little weak from his squirming; and suddenly he was anxious to see, before doing or thinking anything else, what was what with his hands and arms.

Two troughs, extending out from either side of the bed, held the lower parts of his arms. The trough to his left was covered heavily with towels; they made a bulky, ugly mound into which his arm disappeared at about the elbow. The ends of the towels hung all about, and he could see nothing even of the structure that had this part of him within it. There was ice beneath the towels and around his arm, he knew, although he could not feel it; all he could feel was a pain that came back from what seemed a very great distance, and it was burning; it was not at all an intolerable pain, it was only present, possibly a little less than it had been the night before. And not for several moments did he remember that the ice which now covered half his arm had last night covered only his hand.

He turned his head away. He drew one leg up against his body as much as he could; the thigh pressed against his abdomen (the sensation was normal, he noted), but he could see nothing this way; the question was, would the gown fall higher up when he moved his leg back? It did not; the stiff material seemed to follow his leg, and came to rest, in peaks and folds, lower than before.

His head turned slightly, and his eyes turned more, to study now his right arm. It entered the trough at a point just above his wrist; his forearm rested on a padding of towels and his hand within the trough rested on or between more towels which had been laid over the ice; but no towels covered the hand. He looked at it with curiosity, and with no conscious feeling that it was a part of him. Lying in its own cold bed, it did indeed seem a separate thing; and a restraining strap across his forearm at the near end of the trough seemed to make the separation manifest. He studied his hand for perhaps a minute before making any attempt to move it; it was tightly swollen, and the swelling extended along his arm several inches beyond the strap; the skin showed no reddening; it was, rather, of a pale bluish cast; there



were no blisters; there were no other signs of injury. When he had made this inventory of what he saw, Louis tried a very small twisting movement of his arm; it moved as it should have, but he felt nothing from his hand. He looked at it for a while longer, trying movements from time to time; the fingers did not respond at all. On this side he did not feel any pain.

Louis let his glance fall to the trough itself. Like the other one, it projected out from the bed at approximately a forty-five-degree angle. From what he could see beneath the towels, there was a rubber sheet to hold the ice and a kind of wooden frame to hold the sheet. Some of the movements of his arm had stirred up a swishing sound; he guessed that the trough might hold twenty to twenty-five pounds of ice, and from the quality of the sound he judged that possibly a quarter of it had melted. He made this calculation automatically, and without any mental or emotional comment; but having made it, he was seized with a sudden wild notion of himself as a crotchety invalid, shouting "Ice! Damn it! More ice!" to harassed nurses. The notion did not amuse nor much interest him and died at once. He leaned towards the trough a little to see what it rested on, but the side of the bed, and more towels, obscured that. He studied his hand again, and as he did so this time he remembered a story he had heard some years before, from a doctor in his home town, who had written a death certificate for an arm which a local carpenter had lost to a circular saw; the doctor had written the certificate, the man himself made a small coffin for the arm, and his whole family attended its burial in the family plot.

"If thine eye offend thee," Louis said, half aloud. And again, as he had the night before, he turned his head quickly towards the door. It was open a few inches; a night nurse, he knew, was supposed to be just around the corner from it; he could see nothing, but he heard a faint sound of the breathing of sleep, whether from the nurse or from another room he could not tell.

And now once more he turned his attention to his body. He made a sudden spasmodic arching of his back, pressing heavily on the muscles of his neck, driving down with his legs to lift his buttocks clear from the sheet; and, in this position, wriggled

and twisted to work back over his abdomen the cursed gown, which moved easily with him but moved back not an inch. He relaxed the tensions of his muscles and fell back upon the bed, breathing heavily again. And at once he began a series of movements; lifting his body slightly, wriggling down the bed imperceptibly, pressing heavily against the bed, pulling his body up to begin the series over again. All the time he kept his eyes on the gown across his abdomen; it pulled and twisted and moved now forward and now back; once he thought he saw the tan line on one leg, running from just below his crutch diagonally out to the midpoint of his hip, and the untanned skin which his shorts had covered. But at the next moment the gown moved over it, if indeed he had seen it; he could not be sure. His breathing was laboured and he felt the wetness of sweat on his chest; he varied his movements around his basic pattern, swinging his body out first to one side and then to the other; he cursed his shorts, which had been swimming shorts, cut very trimly; and he cursed the stiff and unyielding gown; and after what seemed a very long time he softened and quieted on the bed; tears were in his eyes and he cursed whatever came into his mind. "God damn it, God damn it, God damn it"—over and over to himself, in a whisper, and finally aloud.

In time this came to an end and he lay silent again. The sweat he had worked up was evaporating and chilling him; his legs were cold; he was cold all over, except for his hands, which lay in ice without sensation. The pain in his left arm had nothing to do with the hand, it seemed to him. The pain had its origin somewhere off to the side of the bed, in the air for all he could tell, and entered his arm at an indeterminate point. It also stopped at an indeterminate point, or points, not sharply but in a throb which was a little less here than there and finally ceased to be.

But it is unimportant, Louis thought—one pain more or less. Burns, blisters, bruises, breaks—they all cause pain, he thought; how many painful things begin with *b*, he went on, somewhat interested in this; blows and beatings, too; and beta rays, he added. Also bombs. But bombs were too complex for the simplicity of the thought, and he jumped back to the beginning

of it: pain, one more or less, is not of any consequence. This was true enough, because the pain was a detail; the hand, presumably somewhere down underneath the soggy mound of towels, was more important. And yet, he thought, the hand is a detail, too; what is one hand more or less? He waited a moment for some internal censor to correct this, for the thought was manifestly silly, even maudlin. But nothing happened; the thought stayed. His eyes moved to his right hand, still remote but at least visible; it is unimportant, he said to himself, it is not so important. He turned his arm and the hand turned; he turned his arm back and the hand turned back. The important thing is— But he did not go on to state what the important thing was. He stopped, not out of fear, but simply because he was not sure; he did not know how to phrase the important thing, and, in fact, he could not bring his mind to focus on precisely what it was that should be stated.

But his eyes moved now to the watch at the end of the bed; it said eleven or twelve minutes after seven; he seemed to remember having looked at it when it said a few minutes before seven, but that could not have been so recently; perhaps he remembered it from last night; perhaps the watch had stopped, for who would have wound it? Who will wind it? he thought.

Am I going to die?

He formed these words in his mind distinctly, deliberately, with at least half a notion that he might take the important thing by surprise. But they produced no very great impression on him. They posed a question which did not seem to involve him personally; they could be thought about quite *in vacuo*, and they did not bring his thoughts to focus. The words rather floated on his mind for a moment, and then drifted off, unanswered, hardly asked, only allowed to pass through.

When they had passed he discovered that his thoughts were again, or still, with his hands. And then, quite suddenly, he shivered violently; his bare legs erupted in goose-pimples; his heart pounded. He closed his eyes, felt racked by his heart's pounding, and in the dark behind his eyes seemed to see himself shouting, insisting: "No! No! They are important! They are all important!" What he meant to include in this he was not sure,

or at least did not stop to think; it was not an exact thought, in any event, but a feeling. And it, with the pounding and the shivering and the goose-pimples, in time came to an end, too.

Again he contemplated the hospital gown. He drew both legs up, spread them, and moved them back and forth separately; but he did this without much energy. The fact is, he thought, the words of an old joke coming into his mind, I don't reckon there's any way to get there from here. He could move his body up and down the bed a little, but not enough; he could arch it, but not in the right way; his legs brought the gown to within a few inches of where he wanted it, but all the motions he could devise would not budge it across those few inches. Or so it seemed; so, indeed, it seemed. How like an animal one became with one's hands immobilized; what a fine example, he thought, of the absolute importance of the opposable thumb and forefinger.

From this wry notion Louis took a dull satisfaction; and he nodded his head half in amusement, half forlornly. It was not alone the satisfaction which kept him from noticing that his example was not, in fact, quite correct. A passivity, with roots that went deeper than his present condition, also contributed to this. His eyes had turned again to his visible hand, and his mind had moved on to the ape which, when the bananas were lifted out of reach, had learned to pick up a stick and knock them down. How like a stick my arm looks, he was thinking, too; and my hand, how like a knob or a burl. What kept him from making the connection that the ape had made was the restraining strap, which had been put there by a doctor or a nurse, although he did not remember it being done, and which was therefore a part of the law of the room, promulgated by others, deserving of respect, and in any event a demonstrable fact of his immediate existence. But besides the satisfaction, which was only notional, and the passivity, which was only one part of him, there was another thing; and this was, so to speak, a feeling for the fitness of instruments, a feeling, in this instance, that his hand was quite useless, because it now could not provide the delicacy of movement which was the virtue and the beauty and the utility of a human hand. Thinking of a hand which could so easily lift the gown

away from his abdomen, he could think only of a healthy hand, which would lift it with an opposable thumb and forefinger.

The clock ticked off five minutes more before his disciplines began to weaken in the face of a situation too simple for them.

"I'm a son of a bitch," he whispered. He moved his arms up to try the tightness of the strap, and found it, as it looked to be, tight enough only to keep him from pulling or jerking his arm over in sleep. Even with the swelling of his hand he could withdraw it, working gently and carefully; and so he did. As he lifted his arm, bringing it across the bed, it performed very much the movement it had performed just before the counters had begun their crazy jangling at the laboratory table two days before; the position of his arm and hand, for a moment, was the position they had held at the moment he had released the last small block of fissionable material into the reactor, seeing, in that very instant, the faint blue glow which had disappeared under his hammering thrusts at the structure even before his brain had completed its agonized recording of what the glow meant. This unwitting reconstruction his brain recorded now, but his arm paused hardly perceptibly; then it moved down, and the stiff and massy hand came to rest below the hospital gown on the bare skin of his leg, which it could not feel but which felt its weight and coldness.

#### 4

As a single man, Dr Pederson had one room in a bleak two-story structure given over to the housing of single men. This dormitory, dark green and jerry-built, had been one of the first to arise on the mesa after the Army's bulldozers moved in early in 1743. Although it sagged in the middle and temporariness oozed from every nail hole, it had still what might be described as a sufficient look; and the view from any one of its windows was magnificent. In the spring of 1746 the dormitory housed sixty-eight men, most of whom were minor members (that is, they had published few

papers) of the highest orders (that is, they were physicists and chemists) of the hierarchy of the town.

The one window in Dr Pederson's room looked west towards the Jemez Mountains, which he had stared at rapturously mornings and evenings during the first weeks of his tenancy; which had, for that period of time, compensated for his distaste at not having a bathroom of his own; and which he had memorialized in several letters to his parents back east, never failing to touch on the morbid irony of the setting that this ancient, lovely range provided for the making of bombs. Since those early days, however, his interest had been much more in the foreground of his view; this encompassed a number of things, most notably—across the handsomest sweep of lawn in Los Alamos, a green stretch of a hundred yards or more—the Lodge and its terrace. A two-story log structure, the Lodge was (along with the lawn) the most impressive inheritance from the boys' school which had existed quietly here for twenty years before the young physicist, following his memories of the beauty of the spot, led the generals out to calculate its utility. A recreation centre and dining-hall for the boys, the Lodge had been left very much as it was to serve the scientists and the military men in the same ways. A wide flag-stone terrace had been laid across the entire front. And on this, at mealtimes and at odd hours in between, whenever the weather allowed, which was very often now that spring had come, those of the town's citizens who could afford the charges (the cafeterias were much cheaper) and who had the social assurance (the Lodge's airs were those of an officers' club) gathered for food, drinks, and gossip. Distinguished visitors were put up in the dozen or so well-furnished rooms which occupied the second floor. Dr Pederson had come to enjoy very much his view of the Lodge and its terrace; he could see who was meeting and sitting with whom, and when the striped umbrellas were opened over the tables in the morning he was often pleasantly reminded of the country club at his home town in Massachusetts, where he had gone to his first dances.

On this morning Charley Pederson woke very late. It was after eight thirty. He had stayed up until nearly four o'clock,

reading. He had made some notes, and had reached a conviction, the essence of which was that he alone, of the doctors assembled to attend Louis Saxl (and, of course, the others), had not condemned his patient in advance. The meeting of the doctors in the hospital the night before had begun by shocking him and had gone on to make him feel hopeless. But what he woke with was a degree of anger.

The bathroom was too remote, fifty feet down the hall. He dispensed with a shower, and with washing, too. As he dressed he reviewed in his mind what he had been able to extract, from his night's reading and reflection, to support the cause for hope. There was not, in simple fact, much; but there were some things, there were at least a few things which had yet to be answered.

"If you put them all together—" he said angrily to his mirror.

And who knows anything for sure? he thought, not with anger but rather with a sadness, as he looked out of his window.

On the terrace of the Lodge there were three people. One of them was sitting alone, a newspaper before him. This one was Edward Wisla; his portly figure and his stiff posture were at once recognizable, even as he sat. At the other end of the terrace a young man was at a table with a girl. Pederson did not know the girl—she had on a yellow jacket which shone across the lawn, and she was leaning forward on her elbows looking at the man. His name was Weigert; he was a young physicist whom Pederson knew no better than, as a doctor, he knew everyone at Los Alamos. He barely glanced at Sidney Weigert and the girl. His gaze rested on Wisla, and his anger mounted.

"Just really what does a scientist, except one like Louis—but you, for instance," he said to himself, "an important, practically automatic brain, and a great man, all right, I have no doubt—but what do you know about the meaning of loyalty or hope, or friendship even, because you're Louis's friend, or so you're supposed to be? Do you know anything about anything like that? You don't, you really don't. The mathematical sciences are cold anyway and they don't tell you anything like that. There aren't any words like that in your kind of science—even simpler things, or anything at all that's important to people and part of

people. Your friend, what about your friend? Well, so you shrug your shoulders and there's that frosty smile, and 'I fear not,' you say, 'I fear not.'"

On the terrace Wisla turned a page of his newspaper, and at the window of his room Pederson shook his head.

Then he gathered up his reading. He stood for a moment staring at the top document, a thin reprint from a medical journal bearing the title "Effect of Total-Body Radiation Dosage on Distribution of Radio Sodium in Rats." In a page of this Pederson had found a hope, which he had tried out at the meeting in the doctors' conference room, and concerning which Wisla had said his "I fear nots." But Pederson only looked at the title now, and then went on out of his room. He would go at once to the hospital, he decided; he could get some coffee there if he wanted it, and he wanted nothing more; he would decide as he crossed the lawn whether or not to stop and say a word to Wisla, and what word.

On the terrace Wisla belched loudly, looked about him impassively, and turned a page of his paper. At the other end of the terrace Weigert's girl turned her head to stare at Wisla.

"Is that a great one?" she asked Weigert. She was smiling as she turned back to face him, half from amusement and half from love.

"That would be Wisla," Weigert said, smiling, too, and for the same reasons. "That's the one and only Wisla. Can't you tell him from his pictures?"

She stole another look.

"No, I guess not. I don't think so. I'm not sure I remember his pictures."

"Well, you know who he is. He's not around here much any more. He's making big experiments in Washington now."

Weigert's girl nodded to show that at least she sensed the meaning of this.

"Anyway," Weigert went on, "no matter how many pictures, or the present reality, the way to see Wisla is as I saw him once, absolutely unforgettable, at a party here last winter. The British Mission had this party—that's the ones from England here all



through the project—they gave some good parties, one after the Alamogordo shot especially, to celebrate it. That was some party. But at this one I'm telling about, Wisla had a big red woollen scarf of some sort wrapped around his head when he was leaving, and then another scarf around his neck, and God knows how many sweaters and coats, too. He had all these things on and he bulged out in one great big bulge and then in various little bulges, and he looked like—well, I just don't know what he looked like. Unforgettable. He's an Austrian."

"I don't think he looks like a scientist."

"Oh, Sarah, for God's sake, what's a scientist look like? You ought to know better than to say things like that. That sounds like a woman's magazine."

"You're afraid I'll say something to embarrass you. Nobody's listening. I think you look like a scientist."

From a door in the Lodge beyond Wisla's table Dr Berrain came forth. He inhaled very deeply, stood looking at Truchas, and then, noticing Wisla, walked across to join him.

"Why you spend your time in a hell-hole like Washington when you could be out here is more than I can understand," Berrain said. "I was in Washington for a while during the war. Awful."

Wisla nodded. He scarcely looked at Berrain, but he put his paper aside as Berrain sat down, and he pulled his coffee cup an inch toward him. Sitting erectly, he moved his eyes this way and that, as though assessing the locale in the light of Berrain's tribute. He looked straight at Weigert, who immediately stopped talking.

"It's the asshole of creation, is it not so?" Wisla said suddenly. "However, the enemy is there."

"The enemy?"

"The enemies are ignorance, this unconcern—apathy—and then suspicion. The instrument of these is the Army. They all have their headquarters in Washington."

Berrain smiled and shook his head.

"Oh, no, Mr Wisla. Those things have no headquarters. Branch offices, maybe, in Washington, as elsewhere."

A waiter came over to the table and Berrain ordered his breakfast.

"Of course, when you come down to it," Weigert was saying to his girl, his eyes on Wisla, "he's a lobbyist now really, not really a physicist any more. But he did wonderful things. Some of the very first experiments that confirmed fission. He was one of the key ones, all through this project he was one of the key ones."

"But how is the battle going?" Berrain asked Wisla.

Wisla shrugged his shoulders.

"I have been thinking of two men named May. Even this minute I was thinking of them both. The paper mentions both, one in jail and one in the Congress. You know this Alan Nunn May? Ten years for giving nuclear information to the Russians. What he could give I do not know, nothing of much importance—what is important, the industry big enough to make bombs, nobody can give. So he is in jail and the scientific workers of Britain—doubtless many here and other places, too—they protest the sentence. I do not blame them. This Alan May—I know him, he was never here, but at Chicago and other places—he is of course a breaker of his trust. His motivations are interesting—great idealism, the hopes for peace among nations, beliefs in the scientific meanings of his work. All very dangerous, most dangerous in a strong man, and a terrible bother in a weak one. Of course he had to go to jail, but of course the sentence is protested."

Berrain was leaning back in his chair, his thumbs in the pockets of his vest. He was looking not at Wisla, but at the figure of Pederson, all the way across the lawn beyond the terrace. Berrain squinted his eyes a little.

"To thine own self be true," he said then, still watching Pederson, "and it follows as the day the night, thou canst not then be false to any man."

Wisla gave a loud, short laugh.

"OK, OK!" he said. "Is it so always? But if it isn't, what is? Yes. This other May, one Andrew, in the Congress, had a law to give us all to the Army. His motivations are interesting too—suspicion, such a very bad understanding, and then that apathy."

If you cannot concern yourself about the consequences, you hand the concern over. If you do not understand, but even more if you do not want to understand, then you begin to fear. A suspicious one prepares for his fears. Make more bombs, put the Army in charge, and then—bam! hey? Why should not this May be in jail as much as the other? Perhaps more so.”

“This May is called a Representative,” Berrain said, studying Wisla with some amusement. “He represents.”

Pederson was walking slowly across the lawn, and again Berrain turned his head to look at him.

“There was a bill to turn the whole atomic-energy business over to the Army,” Weigert was saying. “Wisla and some others just moved into Washington and started burtonholing Congressmen and making speeches. They’ve beat the bill, too. I hand it to them. Somebody had to wake people up to what was going on. But you know, still and all, a scientist’s place is with his science. Wisla was the same before the war. He spent half his time beating the drums to get the government to see the importance of fission. If it hadn’t been for Wisla and a few others like him, Europeans mostly, there wouldn’t have been a project. So first he gets us all turned over to the Army and then he gets the Army turned out. I don’t disagree, but these are the triumphs of a lobbyist. He’s always ’ad that in him. Some of the other Europeans, too. And yet they’ve been the best scientists, too. It’s a puzzling thing. I still think you dilute your work when you spread all over.”

“I agree, Sidney,” the girl said.

“A representative is intended to represent,” said Wisla. “He can misrepresent as well. The point is specious.”

“Very possibly,” Berrain said. As he watched, Pederson came to a stop out on the lawn, still a hundred feet or so away. “But, you know, I wish you’d tell me something about Louis Saxl,” Berrain went on. He took two dollar bills from his pocket and put them on the table. “Why don’t we get on to the hospital—you’re coming, aren’t you?—and will you tell me a little about Saxl? I’ve heard about him, but I never met him.”

“To be sure,” Wisla said, pushing his chair back. “We’re all

in the hands of the doctors sooner or later, is it not so?" Disentangling himself from the table and chairs, Wisla straightened. Turning his head first one way and then the other in a slow and rather majestic movement, he noticed Pederson on the lawn. He bowed slightly.

"But what shall I tell you about Louis Saxl?" he said to Berrain. "He had the capacity to be surprised, a very uncommon capacity. And we have lost him to the enemy. What shall I tell you?"

Walking slowly, the two men went along the edge of the terrace towards the hospital.

At the time of Nolan's death nine months before and for some time after it, Charley Pederson had been able to remember, in extenuation of the sadness for the young man's dying, that Nolan had made a very foolish mistake down in the canyon that night, performing an experiment which he had never performed before and should not have been performing, in direct violation of the rules, and as a joke. It had been Nolan's notion, or so some had said, to rig the equipment in the laboratory, to predetermine the experiment, so to speak, thus to insure that when Louis Saxl ran it off the next day it would give a result known in advance to Nolan. The men who worked in the building in the canyon sometimes made bets on what certain readings would be; everyone put in a dollar or so and made a guess; Nolan stood to make six or seven dollars, although that had not been the important thing, of course, the important thing had been the joke.

More than he remembered the sadness, Pederson, and others too, remembered these circumstances. And as time passed Pederson had come to turn his memories of Nolan still less to the sadness and more to the part he had taken in the treatment of the first and only casualty of the Los Alamos project. Like the Hiroshimans, who were said to have developed a kind of pride in the distinction that had come to their city, Pederson had been able to withdraw from the sadness into a small pride that he was mentioned in the medical report on this rather historic case.

Still, his pride had no core to it and it was of no service to him now. He stood irresolutely on the lawn, his anger taken by despair, looking after Wisla and Berrain as they moved along the edge of the terrace in the bright sun, against the gaily coloured awnings. Quite without pride, simply as a matter of fact, he knew that none of the doctors brought in to attend Louis Saxl knew more of any practical utility for the present need than he knew himself; in this thought—although it was not a thought, it was only something that he would have known if it had occurred to him to pose the question—he included even the eminent Berrain, the very sight of whom had the effect of making him stiffen mentally with respect. There was nothing really that Berrain could say; more important, what could he say to Berrain? For he did not really expect Berrain or any of the others to say anything, knowing that there was nothing for them to say; what he expected he expected of himself. In the quite orderly arrangement of his knowledge there was a disorder which came from his feelings, and this allowed and even compelled him to root among the things he knew, in a way he had never done before, to turn them over and cast them aside and pick them up again, viewing them from this angle and from that, seeking always for a new and better arrangement, or a forgotten piece, or a relationship not yet noticed<sup>1</sup>.

Standing on the lawn, his books and papers under his arm, held back and urged forward by the shiftings of his thoughts, Charley Pederson watched as the two men moved beyond the terrace, still walking very slowly. Once or twice Berrain looked back, with small half-turns of his head. But Pederson could see that Wisla was talking quite steadily, and for the most part Berrain was paying close attention to him.

Sidney Weigert, to whom Wisla had bowed in passing, had caught some of his words, enough to know that the radiation accident was under discussion; at all events, he heard Louis Saxl's name, and one was the other now. Rather defensively, with a private irritation even, he recorded to himself the fact that he felt very badly about this accident. His girl's head, turning, caught the sun in the hair around her ear, and this excited him.

And yet it was impossible, sitting here across the street from the hospital, a stone's throw from the seven men who lay over there in beds because of the accident, and almost under Louis Saxl's window, simply to record his feeling, to note and file it without comment. A decent respect at least—and yet a decent respect was owed his girl, too, here not yet twelve hours, and himself as well; she had looked so lovely, so plain good to see after eleven months, getting off the bus at Santa Fe. Now, or in an hour, they would go to the stable and get the horses he had ordered, and ride off to a private place in the mountains, for a picnic, for total immersion in themselves, and for raptures that were becoming more specific every minute.

He noticed that Pederson was moving on the lawn. If Pederson should come close enough to speak and be spoken to, she would say, of course, "Who is he?" and if this happened he would tell her about the accident; it could be argued certainly that to speak of it would upset her for no purpose; a girl, he was sure, would take such a thing harder, and feel it deeper, and not be able to get it off her mind, even though she knew none of the men involved, and nothing of the circumstances; besides, she was fresh from Albion, Michigan, and this must all be very strange to her, and hence her emphasis and dependence on him would be double. He had thought of this already, thinking of the raptures. But now he thought of it again, thinking of the accident, and of how in a sense to tell her about it would be to take away not only the pleasure which shone on her face as her jacket shone in the sun, but the prop and reliance of himself, because he would recede from her in the telling, and of course she from him, and the day from both of them. And it wouldn't do anyone any good at all; it wouldn't help matters.

But if Pederson came close enough, he said again to himself, he would tell her. He would let chance decide it. He squirmed in his chair, and noticed that his girl was looking at him with an expression which was just moving from the look of happiness that had been on her face to the beginning of another expression, possibly of concern or puzzlement. Everyone knew how hard he had been working for eleven months and how reasonable this

four-day weekend was, and he and his girl knew how carefully it had been planned; it seemed absurd to hold all this out and wait, like a mystic, for a chance step to crush it or to pass it by. Still, he said again, this was what he would do. For whatever he could think of doing on his own seemed wrong.

He smiled at her to reassure her and noticed, without any change of expression on his own face, that David Thiel had appeared at the very corner of his eye, out on the lawn some distance beyond Pederson; he heard Thiel call to Pederson and saw Pederson turn and walk away to join him.

## 5

"This is the real crossroads of the town, right out here," Betsy Pilcher was saying. She had the blinds at the front window in Louis's room adjusted for maximum vision, and she stood before them, looking out, twisting the cord this way and that with her hand. "The roads don't cross here, but the people certainly do. I can tell you about everybody, right from here."

She looked back over her shoulder at Louis, and he smiled at her. All was neat on and around the bed. In the hour since Betsy had come into the room, had cried aloud and run to the bed, and—pulling the gown down over the red flesh between the lines of tan as though to blot it out, lifting his hand away from him, installing it gently again in the trough under the strap—had murmured and fussed over him, the strain of that moment had all gone. Their eyes had met, hers struck with concern, his almost vacant, and had turned together to stare at his nakedness, as at something that held no meaning for either a woman or a man but only for a chart. But she had lowered the gown at once. And in a succession of movements, all of which seemed to be variants of the same one, she had tended to everything else, putting him and the bed in order, replenishing ice, brushing his teeth, watering the flower. She did that while the thermometer was in him,

and when she read it she gave a little gasp, this time for joy. His temperature was down three tenths of a degree. It was a very good sign, Betsy was sure; for she did know, she had read or heard, that the bad radiation dosages were marked by a slow, inexorable rise in temperature. Not much could be drawn from it, Louis thought, remembering that the slow, inexorable rise of Nolan's temperature had been marked by many ups and downs. He would reserve judgment, although the judgment he would reserve had a happier inclination than that of some others he was reserving.

Nothing much was said of this favourable development; it simply entered the room, as Betsy had, and became a part of it, as the flower was. But after it, the cold presence of the fifteen minutes before Betsy had come, when he had struggled vainly to push the gown back over him, rubbing his hand without effect over the caught folds (for if the opposable thumb and forefinger were not necessary to disclose reality, they apparently were needed to conceal it), diminished and left him.

Nothing was said of the erythema; Dr Morgenstern had been in and had had a look at it, and had rubbed his nose.

"Would you say the cutaneous reaction of the torso in this case presents some interesting features?" Louis asked him.

"You got a little burn there," Dr Morgenstern had said, looking down at Louis, then pursing his lips, then looking at Louis more intently. But he said nothing else about the burn.

A photographer had been in; he was very embarrassed, had fumbled with his camera and bulbs, and had steadfastly avoided looking at Louis's face at all. He had taken pictures of both hands and a picture of the abdomen, and for the latter purpose a small hand towel was draped over Louis's genitals. His eyes and Betsy's met again over this small preparation, and this time Betsy blushed and Louis grinned to keep from doing so, but did so anyway.

He had had half a cup of coffee and some food; had received codeine for the pain in his arm; and had given more blood to Dr Novali for the counts—of the lymphocytes, the neutrophils, the monocytes, the red blood cells, the platelets, and the rest.



And for an hour, through such events as these, the strain of the morning's beginning had trickled out.

"So tell me," he said to Betsy now.

"The great Wisla approaches, just below," she said. Of Berrain, who was with him, she did not know what to say, and so said nothing.

"And Dr Pederson is standing out there on the lawn like he's lost. Perhaps he is, since he ought to be here by now."

"He's got a lot of things with him, I suppose."

"Things?"

"Books and journals and so forth."

"He's got something under his arm. Yes, I suppose— It looks like what I saw him with last night."

She looked at Louis curiously; his expression was placid, almost dreamy; the top of his bed had been cranked up and he lay with his head inclined towards her and the window. The word peaceable came to her mind as she looked at him, and it seemed to her a shame that, starting soon, starting already in fact, the doctors and scientists would be trooping in and out of the room as they had done the day before, involving Louis in endless discussion, making it impossible for him to rest. But there was nothing she could do about this. She gazed at him a moment, but his eyes were not on her, it was difficult to tell just what their focus was; however, reassured by the peaceable expression, she turned to the window again.

"I can't see who it is on the terrace. Someone with a strange girl—not from here, I mean. I know who's with her, except I can't remember his name. There's your friend David Thiel coming across the lawn. He's a real nice person. I like him."

Someone had left the window open in the rain, Louis was thinking, possibly Ulanov, who had had this room for a day or two when he broke his toe and who was the sort of person not necessarily to leave a window open in the rain but to get up and open it if it were closed. It didn't matter who. The streaks and lines on the slats of the blind were the evidence of some human intervention or non-intervention with some rain, and it was these in the rather glowing light on the slats which made them so much

resemble, if he squinted his eyes a little, a series of atomic or molecular spectra—or, to be precise, photographs of spectra, since the colour was not analysed.

He ran his tongue over the gold cap that Dr Coleman, an old-fashioned dentist, had put over the second molar of his right lower jaw after killing the nerve many years before. Subsequent dentists had deplored Dr Coleman's dentistry, and Louis had sometimes wondered whether it had been bad dentistry or only an act of kindness; at least an extraction had been avoided, and the abscesses so frequently predicted by brisker practitioners had never developed. The tooth was a little sore now, though; more exactly, the gum was sore; but, he supposed, moving his tongue around, what he really meant was that that part of his tongue which was against the tooth was sore, or was beginning to be sore.

He sighed, more mentally than physically; this gold cap which had saved him the pain of an extraction as a child was obviously going to cause some pain now. If the neutron dosage had been high enough—and then he stopped this thought, and quite deliberately to himself he said: "Let's dispense with that fiction." Given the neutron dosage, he continued, whatever it was exactly, the induced radioactivity of this gold cap was going to be enough to burn possibly quite a little hole of its own in his tongue. He would have to mention it, later. It would not be hard to deal with. It might be an annoyance, and it was a bad sign.

But if the streaked slats of the window blind brought spectra to mind, he now asked himself, where did Betsy fit in the picture? The way she was standing, against the blind at one end of it, the spectra seemed to be radiating from her body. One might entitle this composition, he thought, "Girl with Line Spectrum of an Incandescent Gas." Helium, he thought, for she is roughly of the nature of yellow, and yet so are many females, and so it does not mean much. One man's opinion, he said to himself; and her yellow is not so intense as helium's; also, her nose is too bony, her face too thin, although still I like to look at it.

The difference between Theresa and all others who glowed yellow, for yellow was Theresa's colour too, was the difference

between sodium vapour and helium gas, for the yellow of Theresa was the complex yellow, the dual yellow of the luminous vapour, wholly indistinguishable from the simple, single yellow of the incandescent gas to the eyes unaided and unlearned, but very different through the prism, very different when you really saw it.

But this sort of nonsense—he smiled—would irritate Theresa with him, and moreover was an entrapment, for there were several things of which, by private decree, he was not yet going to think, among them Theresa, from whom at all events there might be a wire today and, tomorrow, perhaps a letter.

I, Louis Saxl, he said to himself, will this day think not of the future beyond two days from now, and no more of the past beyond two days ago—no more wanderings in the valleys of the mind—and of the present I will think selectively.

I will compile an Index Librorum and will amend and modify it as I see fit and will not publish it even to myself, for I will know what is on it and what is not. Do I dare to think a thought, do I dare to eat a peach?

"Did you hear?" Betsy said. "Did you hear Mr Thiel calling Dr Pederson just then? It sounded so clear."

Louis's eyes moved to the watch at the end of the bed, to the flower on the window ledge, and back to Betsy, who had turned to look at him and at whom he now smiled. He moved his right arm slightly and heard the sound of ice water in the trough, but it was so fragile a sound that she heard nothing, and again she looked out the window.

"He's got such a nice face, there's so much life in it, you can see it even from here."

Books and journals, books and journals, he repeated to himself. Was it not as predictable as anything in life, as predictable as death, that Charley Pederson would have been doing some homework? Oh, the things that would be read by Charley, by everybody else, by himself for that matter if they would provide the literature.

Everybody will be reading something, mostly about mice and dogs because there isn't very much about us humans, he thought; and the usefulness of all the reports on the casualties and sur-

vivors in Japan is not much, since there were so many variables in estimating the radiation and most of them died or lived on their own, the doctors being killed and the nurses being killed and the hospital beds destroyed. Out of seventeen hundred and fifty nurses in Hiroshima, sixteen hundred and fifty killed or injured. Out of eight hundred and fifty medical students in Nagasaki, six hundred killed outright. Out of forty-seven hospitals, three left usable. Do I remember right? he asked himself. Out of two hundred doctors in Hiroshima twenty left to work. But this is not the writing that will be read now, he reflected. These specifics are the wrong specifics for now and might as well be written on the other side of the moon, for they cast no light. Yet what a dreadful light they cast and in their light is anything else worth reading?

But everyone here will be reading Marshak's paper about the effects of X-rays and neutrons on mouse lymphoma chromosomes in different stages of the nuclear cycle and whose-was-it on the effects of low temperatures on the roentgen irradiation reaction of skin in humans.

Everybody will be reading something, except of course Novali and his laboratory technicians, who will be making notes to be read, and in what room in what building will the charts and graphs be piling up?

Constituting, he recorded, the clinical laboratory findings in seven cases of the acute radiation syndrome, for the records will be kept on all though six are out of danger.

And including much hematology and many examinations of scrapings from the epidermis and the contents and breakdowns of all the voidings and dischargings of seven bodies, together with sperm counts, to say nothing of many, many, many considerations and reconsiderations of the calculated radiation doses in terms of the observed biological response of the patients, expressed as roentgens, reps, rems, gram roentgens, or megagram roentgens.

It is all being written down and it will all be read by people who know, from much reading, approximately what to expect

and more or less when to expect it, although only very approximately and very much less than more how the doses expressed in megagram roentgens achieve their effects expressed in—

Although six of us are out of danger.

The important thing about reading a chart is to read no more than is there. The important thing about reading how six hundred out of eight hundred and fifty medical students were killed in a city of secondary importance bombed without warning is to read more than is there because there is much more in a thing like that than is ever written. But the important thing about the chart—I read Nolan's charts for twenty days, but after eight or nine days I read them differently from before, read them in terms of what they would show at the end, for instance the temperature, just how high would it go? and the white count, just how low? and the radioactivity of the serum sodium, just what would it be? But it is hard to read a chart right, I suppose I would read my own the same way, and whoever will be reading mine—

If Betsy turned into an angel with a wand right now and said she would make everyone read the terrible things aloud until they vomited with understanding if I would die like Nolan or the medical students or worse, I would have to say that I do not believe in angels and it will not be done that way. I do not know how it will be done, or if. The thing I remember about Nolan is not the charts but the night he wet the bed and, lying in the ulcerated skin and the pain and all the mess he was becoming, was embarrassed most by that. Perhaps it could be done if the deaths were very public.

And the night he turned to me, the skin gone from his arms, gone from his belly, and the hair gone from the left side of his head, the expression gone from his eyes, about the fifteenth or sixteenth day—turned and said with his tongue thickened and some of the flesh gone from it, said: "I was playing it for a joke, Louis, I meant it for a joke." After two or three minutes he said: "Honest."

"Honest," Louis said aloud.

"Honest?" Betsy said, turning again to look at him and moving

away from the window. "You mean about David Thiel? You think I'm being patronizing, don't you? Really I'm not. Everyone I know likes him. They think just the same as me, as I."

"No, I didn't mean that," Louis said.

He reassured her that it had not occurred to him to doubt her. He urged her to look out the window again to see if she couldn't tell who was on the terrace with the girl. He didn't want to tell her anything, he wanted her to tell him things, and most of all he didn't want her to leave the room. What did the man on the terrace look like?

"Well, he's got a crew haircut. Very typical longhair. I know his name, it'll come to me. They're dressed up for riding. He's going to show his girl the beauties of the West."

My advice to you is to take the road west into the Valle Grande for about eight miles, Louis said to himself, and then take the little road that turns off there to the south, and go down it for another six or seven miles. It's rough, but it's a pretty road and it will bring you out at the foot of St Peter's Dome, where it's nice to lie in the sun with your girl.

Theresa, he said, did you get the wire?

"Weigert," Betsy said. "That's his name."

## 6

"We could have some more coffee if you'd like some," Sidney Weigert was saying to his girl, "and then we can go down and get the horses. Or shall we go down now?"

"Whichever you want to do, Sidney," the girl said.

"Well, what do you want?" he asked her, and looked at her almost irritably. But his eyes skipped to Pederson and Thiel, walking very slowly across the lawn. Involuntarily he glanced up at the window of Louis Saxl's room.

"Oh, Sidney, you decide."

"Sarah—" he began, but then he said nothing. After a moment

he raised his arm to attract the attention of the waiter, who was clearing off the table at which Wisla and Berrain had been sitting.

"Let's have some more coffee," he said.

Pederson, barely moving from step to step, was doing the talking. David Thiel had his stick under one arm and his hands clasped behind his back; he seemed to be listening to Pederson very carefully.

"I'd forgotten, I remember you weren't here most of the time, but I'd forgotten you left the day after it happened. That's when you went to Japan, I remember now."

"Louis was supposed to go," David said. "I took his place."

"I remember now. It was because of Nolan he called it off. That's a funny thing, I hadn't thought of that."

"Of what?" David asked.

"How it happened to Nolan the day before he's supposed to go to Japan and then to himself the day before he's supposed to go to Bikini."

"Well, don't think of it," David said. "Think of the medicine."

"What I was getting at was that if you'd seen Nolan from day to day you'd have noticed the difference. The gastrointestinal stage of this sickness is a pretty good gauge of its severity, you know that. There isn't much I can tell you, you know more than I do really with what you saw in Japan and then in general you know— But I did watch Nolan from the first, so did Louis unfortunately, and the charts don't show everything. Nolan was really sicker than a dog clear through the second day with the nausea and the prostration. He couldn't lift his little finger. But Louis was sitting up here last night, feeling pretty good. Louis got through the first phase in about a day. That's a good sign, Dave, it can only be a good sign."

David turned his head up quickly and turned it back, seeming almost to duck away. He said nothing. They continued their slow walk.

'And aside from being a good sign in its own right," Pederson went on, "it could mean the shielding or the way he was standing protected his abdomen." He said the last of these words with a rising inflection, which turned them into a delicate question.

"We'll just have to wait and see," David said quickly. "It's not possible to reconstruct things that precisely. I can't tell you any more than I did yesterday. No one can."

"No," Pederson said, sighing. "Anyway, I'm positive he couldn't have got it in the belly anything like Nolan did. You saw the pictures, but they don't show how bad it was when the skin started to macerate. The belly's the breach to watch, all right. You know after I got home last night the first thing I read was an evaluation of some of Berrain's work with rabbits. I'm glad he's here, he knows his stuff. Anyway, he found they could take nearly twice as much total radiation if their abdomens weren't involved."

"When did Nolan's skin—" David began.

"Start to macerate? About the—"

"No. When did the erythema first show?"

"The third day," Pederson said. "That's what did it for Nolan, I think, the heavy burst in the abdomen. And I'm just sure—well, as you say, we'll have to wait."

They walked on in silence for a few steps, and then Pederson continued.

"There's no comparison between them physically. Nolan's health wasn't too good. He had that heart condition, he was overweight by about fifteen pounds and some other things. The report tells about one attack of paroxysmal tachycardia, when the beat went up to 250 per minute, but I noticed others, transient sieges. They didn't help his defences, certainly they made him more apprehensive. Louis's health is perfect. He's a wonderful specimen, weight just about right or better, a little low, not a trace of anything wrong anywhere."

Pederson shook his head. He shifted his books and journals from one arm to the other, dropped one in the process, picked it up, and went on.

"I know as well as you do that this probably doesn't mean a thing. Still, it might give him a little edge, I wouldn't make more of it. There are some other things, though."

"There was too much confusion in Japan," David said. "Nobody ever got to know much about most of the people who died



there. There's enough we don't know about the ones who lived. You'd know better about this."

He looked up at Pederson again.

"What are the other things?"

"There's one thing you can tell me, tell all of us, that'll answer everything, I suppose," Pederson said. "You're computing the probable dosage, and if it turns out just enormous—I know you haven't got the answer yet. I suppose you may not ever figure it exactly. But I imagine you've got a pretty good idea."

David said nothing.

"Haven't you?"

"It's full of complications. Don't underestimate our ignorance."

"I'm not sure I want to hear it. I know it's high enough. I know some of the complications, too. Such as the radioactivity of the blood sodium. If you're basing the neutron dosage on that, I don't see how you can be sure of your results."

David extracted his stick from under his arm. Using it, he began to walk a little faster.

"I heard your point about that last night," he said. "I wish you wouldn't let it worry you."

"Yes, I know, nobody's impressed, but no one says why. Herzog seemed to think something of it anyway. Here's a fact, so the physicists say—bloc sodium will show ninety times the radio-sensitivity of blood phosphorus—and then Louis's blood sodium shows five times, less than six anyway, and you all say it doesn't mean anything. If one so-called fact can be off that much, maybe some others can. Isn't there that at least?"

"There is not that at least," David said sharply. He lifted his stick and made some circles in the air with it. "Charley, quit trying to be a physicist. The relation of phosphorus neutron capture to sodium neutron capture is of some interest to anyone trying to compute the dosage, but it's not decisive even there. Nobody told you why he wasn't impressed because it doesn't make any difference to getting Louis through this, which is your concern. Quit wasting time."

"I've got to know what I'm dealing with," Pederson said doggedly.

"You said a minute ago you weren't sure you wanted to hear what you're dealing with," David said, and his voice was patient again. "But you're certainly dealing with a jungle subject. We don't any of us know enough to keep from getting lost in it. But you're going out of your way to get lost, poking around looking for reasons to hope instead of for ways to treat. The ways to treat are what's needed, and what I'm doing or how I'm doing it doesn't have anything to do with that, unfortunately. Have you found anything? What are those other things you mentioned?"

Pederson came to a full stop, swinging around to face David.

"Dave, I can't say anything more until you tell me whatever you can tell me. *Is there any reason to hope?*"

From the terrace Sidney Weigert was watching them and his girl was sitting silently, turning her coffee cup round and round. Berrain and Wisla were just disappearing through the hospital door. At the window of Louis Saxl's room the white of Betsy's uniform was still visible behind the open slats of the blind. A few people were walking one way or another in the streets, but most of them were at work and their wives were not yet out for their shopping. The air was getting to be quite hot now. Two small boys came along on scooters.

"Hi, Charley!" one of them called.

Pederson waved absently and continued to look at David.

"No," David said, "there's no reason to hope. No reason. Does it take a reason? You said to begin with you had some thoughts that might help. Are you going to withdraw them now? There may be reasons to be patient. You've mentioned some. Won't that do? When hope breaks, let patience hold. Won't that do?"

"Dave—" Pederson began.

But David had moved ahead. He was walking fast and strenuously, hunched over, bent forward, and apparently through with Pederson forever. Pederson ran forward and caught him in the middle of the street.

"Dave!" he demanded.

"If you can think of any way to make two and two not equal four, concentrate on that," David said, muttering the words.

"What did you say?"

"I don't like your questions, they're the wrong questions," David replied crossly. And with what seemed rather childish petulance, he turned his head away from Pederson, looking down the street toward the center of the town. The girl from the telegraph office was standing down there, a hundred yards or so away at one side of the street and just back from it; she had on the same brightly coloured dress that she had worn the day before. Possibly David had noticed her earlier and was looking now for that reason, but this did not seem to be the reason, for he turned his head again almost at once, too soon to have noticed that she was starting to walk towards them.

Pederson, first puzzled and then hurt, had noticed nothing. He was looking away, too, in another direction. They had come to a stop again, and they were standing like puppies who have been busy at something and can't remember or are suddenly undecided about what to do next.

"The trouble with us is that you're trying to think my way and I'm trying to think yours," David said after a few seconds of this. "If Louis dies it will be because he got a lethal dose which the physicists will compute, and if he lives it may be because the doctors thought of something."

They looked at each other in silence for a moment, and then again they moved towards the hospital, slowly as before.

"I don't know yet how much radiation was involved," David said now. "I know roughly—so does Louis, I imagine, so do some others—and of course it was high. Does it help to say that? How high? you want to know then. Meaning does it leave any reason to hope? or—what's the alternative?—shall we all give up and go home? How high is high? That is, when does a high dose become a lethal dose? Our ignorance is a reason to hope, and I shouldn't have said there was no reason. This is one. Don't underestimate our ignorance. What's a lethal dose of total-body ionizing radiation? Six hundred roentgen equivalents, it says in all the literature—all since the beginning of this year. Before that it didn't say. You know, I sat in on a meeting trying to determine the lethal radiation level, just to bring some order out of chaos. The range of estimates ran from four hundred to two thousand

roentgen equivalents. Everybody made a guess, and this was after Hiroshima and Nagasaki. We're still guessing. That six-hundred figure came out of such a meeting and was somebody's guess, maybe somebody with a train to catch and no great reverence for the sanctity of meaningless numbers. I hope we'll be guessing for a long time. One of the difficulties is that most of what we know comes from mice and dogs and rabbits. The results are duplicable among them, particularly under the nice controls of a laboratory. But they are not perfectly applicable to humans. They get you into oversimplifications and guesswork. I trust this difficulty will be preserved, too.

"Did I tell you about Professor Tanaki? He's a Japanese physicist, a small, dignified man. I met him at MacArthur's headquarters in Tokyo. He came there to show his reports on the radiation casualties at Hiroshima. They were very useful, and after he discussed them he spoke a little about how he'd gone to school at the University of California years before, how he'd done some experimental X-ray work there on rats. I didn't tell you about him? But let me tell you what he said, when he finished talking about his work. 'I did those experiments years ago,' he said—his voice was very precise, and soft—'only on a few rats, of course. But you Americans, you are wonderful, you have made the human experiment.' There were several of us there, but no one answered him. No one could think of anything to say. He paused just before 'human.' 'You have made the—human experiment,' he said."

"May I speak to you?"

David turned. The girl from the telegraph office was standing right beside him. Neither David nor Pederson had noticed her approach, and now they both stopped and looked at her. She looked only at David and she said nothing more.

"Of course," said David, leaning forward slightly on his stick.

She turned away at once. She walked some eight or nine steps back towards the street and stood facing it. Pederson looked at them both with great curiosity, but when he started to say something David was already walking back to where the girl stood.

"Your wire could not be sent," she said as soon as he reached her. "Do you know?"

"No, I didn't know."

"An order is against it."

"An order from whom?"

"Colonel— That colonel. I will send it from Santa Fe if you want me to."

David said nothing. He had been looking into the girl's face, and now he looked down at the ground.

"Do you want me to?"

"I don't want you to get into trouble," David said, and he continued to look down because the transparency of his words embarrassed him.

"There is no trouble. I will send it from Santa Fe."

"Yes, but there might someday be trouble," said David, looking up at her now. "Still— You could say I asked you to send it. Or told you to. Will you say I told you to send it?"

"Who do I say this to?" the girl inquired.

"To anyone who might ask about it. Later, I mean."

"But nobody—" she began, and then, after quite a long pause, she smiled at David, and continued. "I will say you told me."

As abruptly as before, she turned and walked away.

"Thank you," David called after her.

She said something over her shoulder, but David couldn't make it out. For a moment he stood watching her; then he went back to where Pederson was still standing, and they moved on again.

"Is she a friend of yours?" Pederson asked.

"No. Or yes—yes, she is. But I don't know her."

"I've heard a lot about her."

"Really? Is she well known?"

"She is to the GI's. They all know her," Pederson said, rather primly, not sure of himself.

David, peering up at him, smiled at the flowering of suburban Massachusetts in his face. But he had no interest in pursuing what Pederson was not sure he wanted to say or keep from saying.

He was feeling a small and quiet exhilaration, as one might savour a private victory or some achievement of a friend, and he withdrew into this sufficiently to dissuade Pederson from saying anything more at all. So they walked in silence to the foot of the stoop before the hospital door, where, David's thoughts enlarging to encompass Colonel Hough and his memory of Professor Tanaki returning, his mood changed.

"But it was not a good experiment, even ironically," he said. "Even in Professor Tanaki's horrible irony, it wasn't a good experiment. We killed a hundred thousand humans and their doctors as well, who might have learned something. They died in the rubble, untended, most of them. And we still know most of what we know from rats and rabbits."

Shocked at this, Pederson could say nothing.

"Do you know why so many doctors are here?" David went on, mounting the stoop briskly. "Berrain, Kahn, Jerome Wood-yall, and the rest of them? About as many, in fact, as there were for the whole of Hiroshima? What a footnote for Professor Tanaki's theme! Well, why? Are seven here worth a hundred thousand in Japan? Even including the supreme authority on that delicate experiment which determined the critical amount of fissionable material for the bomb that killed the hundred thousand? More irony! But is this what galvanizes the Army into private planes and urgent phone calls—come quick and time and money no object? Or that the seven are all excellent men, and one of them the most excellent of men and a first-rate physicist to boot? It isn't for anything like this, and there are a good many things like this. Seven are not worth a hundred thousand, not any seven, except as they provide the first completely observed and measured cases of the acute radiation syndrome in history—nicely graduated, too, from intense to negligible exposure. Nolan died in confusion. The checks and controls weren't working when he dropped his miserable screwdriver, nobody was looking, and what we learned was by guess and by God. And the Japanese—nobody who knew what happened was even *there*."

At the top of the stoop David whacked the screen door with

his cane, and turned a look of inexpressible bitterness on Pederson.

"But what a full set of curves and charts and graphs we'll get from Louis! How greatly we'll enrich the literature! How attentive the Army is to every need and detail—now!"

It was too much for Pederson. The bitterness was not lost on him, nor the irony either, but he could not partake of them; he did not think this way and he did not know what to think when anyone else thought this way. If he had been listening to someone other than David, the bitterness might have driven him on to annoyance; because it was David he simply withdrew his interest, as a kind of gesture of respect, much as one overlooks an unworthy or uninteresting act when it is done by a friend who is not properly represented by it. The end of David's speech Pederson hardly heard. And yet his mind had not reverted to the important things either. He had seen the white of Betsy's uniform at the window; he had noticed it while David had been talking to the girl from the telegraph office; and what he was thinking as David finished was that Betsy was probably up there with more of those ridiculous preserves which Louis couldn't eat, or with something equally silly, or was anointing him or perhaps just genuflecting towards him; and that, from the way she acted, you'd think she was his mother or his mistress.

One following the other, David and Pederson went inside.

On the terrace Sidney Weigert was leaning forward on the table, his arms folded before him, his head bent slightly down. He was talking steadily to his girl, who, sitting straight up, her hands in her lap, was listening carefully, although her eyes strayed every few seconds to the hospital across the street, to the door and the windows. At the window of the room that had been pointed out to her the white of a uniform was still visible. Then, even as the girl looked, it disappeared.

## 7

And now along the street from the centre of the town came Colonel Hough, walking very smartly; from the door of the cafeteria building, nearly a block behind him, emerged George Ulanov and a small, black-haired girl. Ulanov surveyed the street and saw the Colonel.

"Hey, Hough!" he yelled.

The Colonel stopped.

Ulanov leaned over and kissed the girl; ran his hand down the side of her leg and kissed her again; said something to her at which she laughed; then turned and sprinted up the street to where the Colonel stood, watching him without approval.

"It'd be useful all around to have you in uniform," said the Colonel.

"Arrange it," Ulanov panted. "I could use—" he breathed deeply—"the basic training. And for the rest—" another breath—"it would be an excellent way to get off this project, along with the rest of the uniforms."

"I hate to think where we'd be—"

"Please don't, then. I want to complain about a stove."

"You have complained about a stove."

"Look, General," Ulanov said, taking Hough by the arm and pulling him along. "You cannot know how our stove smells up the place. You refer me to the Housing Office, which fails to know, too. Nonetheless it delivers yesterday another, alleged to be an improvement. This other sits overnight outside our door. This morning it was to be hooked up, the Housing agents promised so. But this morning the Housing agents come and take away the new one! Orders, they said! Our house still stinks. My wife and I still must go to the cafeteria. Now, God damn it to hell—what now? *Ce n'est pas la guerre! Was ist?* Uniforms?"

"You should go to the Lodge," the Colonel said. "A pleasant place on a nice morning. Go back to the Housing Office. My apologies to Mrs. Ulanov, but the problem isn't insoluble. My God—"



"Sure, sure," Ulanov said. He relaxed his hold on the Colonel. "Now another thing, different. I met a Congressman last night."

"Did you?" Hough said with some surprise. "That Representative, the one from—?"

"He's staying at the Lodge. Just arrived yesterday."

"That's the one. Lord, if he met you! Where?"

"I met this distinguished character at midnight in a vacuum. But truly! I met him at Walter Romach's house. He was there for dinner and the evening."

"They're friends?"

"Well, this person used to be a tax lawyer for wicked corporations and Romach's a corporation man himself—took leave from Lowe & Waterson to join the project. He'll go back, too. They met somehow, before the war. Anyway, really. Really, do you know him?"

"No. I met him. I'm seeing him today. He's a committee chairman. I hope to God—"

"He says the Lodge is better than any motel he's come across, except one. He liked one in California better."

The Colonel said nothing.

"He says the nation is proud of our work, and considering what it cost, he says, it damn well ought to be. He says it could have been done for less, but he's not necessarily kicking, he says."

"I'm glad to hear that."

"He thinks Alan Nunn May ought to be shot."

"Alan Nunn May was a goddammed fool, and I thank God he never got out to Los Alamos. I also thank God he's England's problem, not ours. So I suppose you set the Congressman straight on everything. I suppose—"

"He too thanks God. He thanks God for giving us the secret—I set him straight on that, I told him nobody gave it to us. I told him we've had to work for it ever since us Poles got the track of it fifty years ago—and he says—"

"Oh, God!"

"—he says well anyway the Russians won't get it for another fifty years. He says the Russians haven't got the know-how. He says it might be necessary to have perhaps some preventive war,

a little sort of one, perhaps to drop a few bombs on them, to show them what is what, but not necessarily, and he says not to get him wrong. He says many wonderful things, and he is *not* an important man."

"He's got the power to bring down a Congressional investigation on our heads if the idea occurs to him, and I wouldn't be surprised if it occurs to him after listening to you. What's the point of getting a committee chairman all worked up, and he's only here for a day?"

"I didn't work him up, old friend. He listened to a broadcast on our radio station last night. A respected scientist member of the community told why the Bikini bomb tests were a bad idea—a threatening, asinine idea, I believe he said, and so forth—and Congressman What's-his-name took off from that. I got there late."

"I should have listened. He'll want to talk about that, I suppose," said the Colonel. "Nuts," he added.

"But if this is where power is, then, believe me, we are all lost," Ulanov said, quite seriously. "Believe me, I know this kind of person. I did not meet him just last night. Some even live here, and I knew them elsewhere, including in Poland and England. They are people who ask questions only when they decide on the answers. Therefore they live backwards and know no place to go except where they have been—or where their tribal ancestors were—the further back the better. This was not all right a year ago or even a thousand years ago. It is never all right, it is a fault in men like faults in rock, but once there was tolerance enough for it, sometimes just barely. But what is the critical amount of this unreality now? How much can we tolerate before it blows up in our faces and puts our eyes out for good—Congressman What's-his-name's as well as mine? and yours?"

"This is quite a lot of effect for an unimportant man to have," the Colonel said wryly.

"Is true," Ulanov agreed. "So let us not let him have such effects. Let us talk to his voters and maybe they will vote him out. Have you sent a dollar to Einstein's committee? But you might at least quit quaking before frauds like this."

The Colonel patted Ulanov on the back.

"I'll send a dollar to Einstein's committee. Nice to have known you. I'll see you around."

He turned away from Ulanov towards the hospital, which was now just across from them, on the other side of the street.

"Just a minute, Lieutenant. The most important thing is now to be said."

"I want to get to the hospital, Ulanov," the Colonel said impatiently; but he stopped. "What is it? Can you just say it?"

"This Congressman wants to investigate Louis Saxl."

"He *what*?"

"He wants to investigate Saxl because Saxl was in the Spanish war. He doesn't necessarily think Saxl ought to be shot right away, but he finds this disturbing."

Colonel Hough took three steps back to Ulanov. His face expressed complete disbelief.

"But I knew about that. The Security Office knows about it. He's been cleared for years. Is this a joke?"

"Not to the Congressman. The Congressman has not cleared him. You said—"

"I mean, are you telling this straight?"

"Yes," Ulanov said, speaking now with great simplicity. "The Congressman, so far as I could tell, was perfectly serious. I came late because I was at the hospital. He asked me about things, quite solicitously. I told him something about Saxl because—I suppose because Saxl is worth telling about. I mentioned Spain, and the Congressman went up like a rocket. 'Fought for the Communists?' he said. 'Good God, how long's he been on this project?' And Romach—Romach's thick-headed, but he has no malice—Romach said: 'He's one of those *who* is the project.' Well, the Congressman wants to talk to people, including you. And including Saxl."

"Talk to Louis?" said the Colonel in a thin voice. "But doesn't he know the shape he's in? You told him, didn't you? Oh, no, really, he shouldn't do that. I'm sure the doctors—I'm sure he could understand—"

The Colonel did not finish, but he did not go on. After a

moment Ulanov shrugged his shoulders, and then he laughed.

"As you say, he is an important man. You know, I must confess—though I recognized him, there was something not right in the picture. It may be his importance. I hadn't expected to find it here. I think I had forgotten to look for it here."

They continued to look at each other. The expression of disbelief was still on the Colonel's face, but as though it had been left there, and was now forgotten or at least untended; Colonel Hough's mind had apparently turned inward to other things and had left no clues.

"Well," Ulanov said finally, "you have your meeting. Two meetings. After the doctors, the Congressman. Fine, fine. I suppose you know Louis isn't so good this morning?"

"No," the Colonel said, suddenly drawing himself up; he frowned and looked sharply at Ulanov. "That's not so. I called. They told me he was feeling much better."

"Well," said Ulanov pleasantly, "one of us must have heard wrong. I must go. I hope everything turns out well." And he walked away.

The Colonel looked after him, and then once again started across to the hospital. He looked at his wristwatch; he gazed up at the hospital windows; he frowned automatically at a box which someone had left under one of the first-floor windows; he wriggled his shoulders to straighten his jacket. Ulanov, he was thinking, and people like Ulanov—the fancy foreigners, he sometimes called them, although they were not always foreigners—whatever their common denominator, such people cast spells on him, he had to admit it. Now in a minute, now that the spell was gone, things took their places. There were three new things to think about—all complicated by the fact that the civilian director of the project was away in Washington on Bikini business, and so he must think on his own.

There was this crazy notion of investigation; as to that, the Congressman simply did not comprehend the situation, and no wonder, with Ulanov to tell it to him. But certainly no one started investigating a man who might be dying; the Congressman could not have understood at all how serious Louis's condition was—

and would, of course, be appalled to learn that anyone—well, there would be no problem there. But quite aside from this, mightn't it have occurred to Ulanov simply to point out that the Spanish business (he wouldn't defend it, of course) had been looked into years before? Ulanov had probably fought the war all over again with the Congressman. And Colonel Hough smiled despite himself; he could never dislike the Ulanovs, at least not when he was not with them.

Still, thought the Colonel, the son of a bitch may have got the Congressman so worked up that he really might start thinking about a general investigation. But of what? said the Colonel to himself, and he did not even pursue this thought. Simply on the premise that any part of a project into which so much of the taxpayers' money had gone might be fair game for Congressional scrutiny, the Colonel, in common with all others in positions of any authority, had thought often of the possibility of investigations. These thoughts had been largely nominal in the first years of the project; they had become acute in the months and weeks before the test explosion at Alamogordo; and they had all but evaporated in that moment's blinding crown to all the effort, all the worry, and all the money. Some of the scientists had danced for joy on the sands of lower New Mexico that cold July morning, and a few had stood in sorrow. Among the military men the general reaction, whatever other reactions there were, was a smile of relief. And Colonel Hough smiled now again, partly in remembrance of the terrible excitement of that time and partly because his heart and his record both were pure.

And then at once he frowned, because the real problem was nothing so silly or so elaborate as either of these two others. The real problem—and although Ulanov had brought it forth, he would be fair, he could not really blame Ulanov for this—the real problem was that now the story of the accident was out of hand, or was on its way to being so. If this Congressman knew about it, it could no longer be kept on the reservation. The Congressman himself was to blame for this, simply by showing up now of all times; but that was to say no one was to blame, that events were to blame. And so? said the Colonel to himself. So,

he said, he would do what he could when he talked to the Congressman; he would explain the importance of official notifications and he would say a few words about security and public morale which, he was sure, would be useful to say to the Congressman in any event. And he would get a story ready.

Poor Louis, he thought; what could Ulanov have heard? But he would know the facts in a minute, he would get them direct in a minute from the doctors' mouths.

Poor Louis, he thought again, mounting the steps to the stoop before the hospital door.

## 8

By nine o'clock or a little later, on this Thursday morning two days after the accident, nearly everyone directly concerned with it had put in an appearance at the doctors' conference room in the hospital; and all of them had heard the unexpected and disturbing news about the burn on Louis Saxl's abdomen. Dr Morgenstern told the first arrivals, but he had thereupon disappeared. The first arrivals told the later ones. Dr Berrain mentioned it to Pederson; he made as little of it as possible, and at once asked if Pederson did not agree that it was a good idea to keep the abdomen covered with ice bags.

"There is no pain there, I understand," Berrain said, speaking conversationally to his young colleague. "Still, there might come to be some. But aside from that, more important, I was thinking we might be able to hold back somewhat the circulation of the cell debris. Mild chilling, not below sixty degrees Fahrenheit or thereabouts. Don't you think?"

Pederson's round, bland face, incapable of concealing anything, showed the shock the news had been to him. But Berrain took him beyond it well enough, and in the course of time Pederson went off to make sure that the ice bags were being properly applied.

"May I join you?" said Dr Briggie, who, still haggard from his night's journey and a one-hour nap, had been standing close by.

"Of course. Have you been upstairs yet?"

Dr Briggie's coming had been announced the night before. He was known for work he had done with certain dyes which, when used on experimental animals, had proved effective at preventing the small, oozing hemorrhages characteristic of the late stages of severe radiation sickness. This work was recent; it had reached no usable result at the time of Nolan's accident and had not been available, of course, to the Japanese. No one had made a decision that Dr Briggie would try his dyes on Louis Saxl if the necessity should arise. He had simply been called to Los Alamos.

"I saw three or four of the less sick patients a few minutes ago, not Saxl," Briggie said.

"Well," Pederson began; but then he didn't know what he wanted to say. On the stairs going up they introduced themselves.

The news of the burn stayed on everyone's mind.

The doctors came and went between the conference room and the rooms of the patients and Dr Novali's laboratory. But two of them did not examine the patients or even see them; these two, hematologists summoned from Chicago the day before, found themselves an empty room near the laboratory and moved into it with piles of literature and books and notebooks, emerging from time to time to study some of the numerous charts on wooden boards which hung from the walls or lay on the tables in the laboratory. With Dr Novali or with one or another of his technicians, they peered at slides with blood samples fixed on them, or sucked at pipettes, or checked counts of diluted blood in hemocytometer chambers. They worked with hardly a word; then they discussed things for a while; and then they stood by the window at the end of the corridor between their room and the laboratory, smoked cigarettes, and discussed them over again.

"I think I'll have a word with someone—Berrain, I guess—about the staining technique Novali's been using."

"It's standard."

"Yes, for a crude picture. But really he shouldn't use Wright's stain except for run-of-the-mill stuff. This calls for Giemsa. Also, he's overstaining."

"Well, so far as Saxl's concerned I don't think it's going to make a hell of a lot of difference. The changes are so gross you can practically hear them."

"I understand he's the guy who put together the first bomb. Do you know him? Ever met him?"

"No. Don't know any of them."

"Also, someone told me he sat through that other case out here last year. That'd give you something to think about, hey?"

"If I were Saxl, I guess I'd be thinking about that burn on the belly right now. If it shows up there this fast, I hate to think what we're going to be seeing in a day or so."

"Or not seeing. True enough. Let's get back."

So the blood men talked; today's burn would be tomorrow's new fall in the monocytes and the reticulocytes, would show up in floods of swollen and pallid cells, in toxic granulation of the neutrophils, and in all the other uncontrollable, steadily accumulating wreckage of the fine balance of the blood elements.

The burn could not be defined, strictly speaking, as a bad turn in Louis's case; it marked rather the emergence of a fact of the case which had simply not been visible before. As a delayed reflection of the subatomic storm which had lashed Louis for a small fraction of a second, it was ominous but not conclusive.

"There's a fellow at Children's Hospital in Boston," Dr. Ber-rain told Pederson a little later. "He did some interesting work a few years ago on the development of toxemia from exotoxins in injured tissues. Falk or Falkes, I forget which. You know, we might give him a call. There's going to be some infection, and it usually comes from the intestinal bacteria. From the look of things, Saxl's gut is involved heavily enough— Well, suppose you give Falk a call. Tell him I suggested it. Tell him what goes on, ask him if he's got any opinions, have a talk with him. Will you do that?"

On the landing of the stairway, where Betsy had watched the procession leaving the night before, three of the doctors held a



small caucus. Louis's blood pressure had shown a noticeable fall when it had been taken early in the morning of the first day after the accident, had stayed about the same during the day, but had shown a partial return—that is, systolic pressure was back to normal, but diastolic pressure was still down—when the last reading was taken on Wednesday evening. The question now was whether to take it again. One of the three on the stairway had just been trying.

"But I can't do it," he was saying. "I can't inflate the cuff. It's just too damned painful on either arm. He had to ask me to stop, and I thought he was going to faint. So what now?"

"You know, the early sphygmomanometers got readings from the finger tips. Well, hell, that's a bright thought. I forgot about his hands. What's wrong with the thigh, though?"

"As for me," the first one said, "I'd just as soon skip it. Blood pressure gives a check on the initial alarm reaction, but I can't see why we have to keep track of it from here on out. If we don't know, we don't know."

They talked about it; one was curious to know what had happened to the diastolic pressure; indeed, they were all curious about that; they agreed that at this stage the readings were not too important, but they also agreed in the end that it was too bad not to have them if on! for the record of what was obviously going to be a most important case.

The question was referred to Dr Berrain. He told them to forget it.

Dr Morgenstern was off somewhere for half an hour or so. When he returned everyone was in the middle of something, and to tell the truth most of the doctors had not noticed that he had been away.

"I myself know at least eleven distinct theories of the etiology of radiation sickness," one of them was saying to another, standing in the corridor. "And I suppose there's a little something to all of them. But I don't know a single therapeutic measure that aims to treat any part of it directly. Do you? Well, I take that back. Briggles's dye docs. But everything else is secondary, supportive—really, just general medicine, while the sickness goes

on its own quiet way. Almost worst of all, you know, is this latent stage—worst for us anyway. I doubt Saxl's going to make it. But he feels pretty good today and he'll probably feel pretty good for another few days. Still, he's getting sicker all the time, and what can we do? What, God damn it, can we do? Well, this may tell us something."

Dr Morgenstern had come up beside this doctor, who now looked at him thoughtfully but not as though he expected Morgenstern to say anything, and then walked away. He was carrying a large needle, and it was this to which his last words referred.

Dr Morgenstern did not say where he had been and no one asked him. He seemed a little out of place. In the half-hour he had been gone the whole tempo of the hospital had changed; now it was being set by the experts, among whom Berrain, partly by virtue of his reputation but even more because he had started telling everyone what to do without letting them become quite aware of it, had apparently taken charge.

"A sternal puncture?" Morgenstern said, looking after the doctor with the needle.

"Yes," said the other doctor. "It should have been done yesterday."

"He felt so badly," Morgenstern said.

A gracious man, Dr Morgenstern felt that his position as the doctor in charge of the hospital imposed on him some of the obligations of a host, and so he wandered about the corridors, peeked into rooms, and occasionally had a word or two with one of the other doctors. But it did not happen, for an hour or more, that he encountered Dr Berrain. Possibly he was not seeking him. And at all events Berrain was not much in the corridors. This morning he spent some time with all seven of the radiation cases, examining each of them. He went over the blood samples, studied specimens of urine and fæces, looked at charts of blood-clotting times, and himself called a doctor in Salt Lake City to discuss with him the advisability of trying an exchange transfusion with Louis Saxl. After deciding to withhold that for the time being, Berrain went to Saxl's room and stood in on the administration of a pint and a half of blood, a hundred thousand

units of penicillin, and twenty milligrams of thiamin chloride. He also arranged for a drip injection of glucose in saline for that afternoon. He stood by the window watching while the doctor with the large needle stuck it into Louis's breastbone and drew off a sample of the marrow. With Betsy and Dr Pederson helping, he then examined Louis's hands. He said very little during all of this, but afterward he spoke to Louis alone for several minutes. He left the room as a young physicist, a member of Louis's own group who had chanced to be doing some desk work up in the Technical Area the day of the accident, came in with a Geiger counter to make some check counts of the radioactivity of several parts of Louis's body. Betsy and Dr Pederson were with him. Berrain left some instructions with them concerning Louis's fluid intake, and then walked back to the doctors' conference room by himself.

None of these, nor any of the many other actions taken this morning, would have any known or measurable effects on the progress of the radiation sickness itself. All of them were perfectly justified for one reason or another, and would be useful in one way or another; for the present, in any event, they kept everyone busy with the sense of doing something. A calamity of this sort always brings in its train a kind of stupefaction and then a certain degree of excitement. Through the morning the excitement came in, to infect all the doctors, the nurses, and the technicians, and the patients as well, including even Mr Matousek with his broken leg down on the first floor. It failed to reach only Wisla and David Thiel, who spent this morning, largely by themselves, in a cubbyhole next to the conference room, filling the air with talk and many sheets of paper with computations designed to help them establish the more or less precise quantity of neutrons which had entered seven bodies, what proportion had been fast as opposed to slow, what had entered directly and what had come from scatterings off the floor and walls of the canyon laboratory room, what might have penetrated beyond the superficial tissues to reach the bones, and what might have induced further radioactivity in the cells of the bodies, and approximately how much. The excitement did not reach Wisla and David Thiel,

and it seemed likely, as Dr Berrain came to the door of their cubbyhole and stood there for a moment looking in at them, that it had not reached him, either, although he had generated it. He shrugged his shoulders, smiled ruefully, even a little cynically, took off his glasses, and rubbed his hand over his forehead. David turned a pencil in his hand and looked at Berrain. Wisla glanced up, and then went on making notes on a sheet of paper.

"Those computations are beyond me," Berrain said: "I could ask a hundred questions." He leaned against the door. "I imagine you are much less lost in my field."

"How long before you'll know the answer?" David asked.

"Another two or three days, I'd guess. It's a guess."

There was a pause; Wisla went on writing.

"May I ask you the same thing?"

"Same answer, more or less," David said.

Berrain nodded his head; again there was a pause.

"A few days to define the cause, a few days to define the effects," he said finally. "Nature balances things out."

"This is all somewhat too elegant," Wisla said, looking up. "In two or three days we shall know whether he got the biological equivalent of perhaps five hundred roentgens of hard gamma rays or perhaps six or seven hundred, or even more, and some details of varying importances. In short, we know something right now, such as that he did not receive only three hundred. Is it so different with you?"

"Yes," said Berrain, pulling himself away from the door. "It's different with me. But I didn't know you knew this much. You didn't say so much last night."

"We didn't know this much last night. That burn tells us something. But we don't know it now either," David said.

"We do not know it to be proven to the exclusion of all else," Wisla remarked. "It has been established as probable."

"But not certain."

"There is one possibility against it. This is a very unlikely possibility."

"It is still a possibility."

"To be sure," Wisla said. "There is one chance in a hundred that it is correct." And he returned to his writing.

"A little better than that," David murmured. He was tapping his pencil nervously now, but suddenly he put it down and smiled up at Berrain.

"There is a quirk in the shielding," he explained. "The shielding around the critical assembly used in this experiment is very inadequate. Partly because of the way the shielding is put together, the radiation flux right around the assembly was quite mixed. Certain parts of the body would have been in high-intensity areas and the rest in the shadow cast—"

"Stop there," Berrain said, throwing up his hands. "I am half a biologist but not at all a physicist. I can always tell what I am with words like 'flux.' What do I think of? This time, watery diarrhoea. But I can't tell you anything in the face of seven hundred roentgens, except that as half a biologist I can tell you he will then die. If—well, let us say, if four hundred—then I think we can keep the infections away and preserve the fluid balance—which is to say, we can give the tissues a chance to rebuild if they can. Pretty soon I will have a look at the bone marrow and in a couple of days I will see if the white blood cells begin to disappear. Then I will know for sure—unless you tell me first."

Wisla seemed about to say something, but instead tapped David on the shoulder and directed his attention to a line of figures on the paper before him. As David looked, Wisla circled one. He looked inquiringly at David, and David nodded.

"I would not wish to be premature," Wisla said, looking now at Berrain. "The year I came to this country they were calling people who were going to war with Spain that—premature anti-fascists. Is it not a remarkable phrase? Well, no prematureness. There is this possibility which Thiel speaks of."

"Everyone reassures everyone," said Berrain, and again he smiled, almost cynically. "We will do what we can. I am going to propose that four of the cases be discharged from the hospital today, and possibly one in another two or three days. That one

standing just behind Saxl—Haeber, I believe, isn't it?—should stay for a while, but he's in no real danger. As for Saxl—"

Berrain paused; he had reached into his pocket and withdrawn a chain with two or three keys on it; he began to dangle this.

"He will have to lose his hands," Berrain went on. "We are amputating them by refrigeration, as of course he knows. He knows so much, much too much. I do hope his ego is strong."

"Aren't those Louis's car keys?" David asked.

"Yes, he gave them to me."

A little group came walking along the hall. It included Dr Morgenstern and Dr Pederson and Dr Novali; and, a few steps behind, Colonel Hough. They came up to the door of the cubbyhole behind Dr Berrain and stopped. Everyone looked at everyone else and nobody said anything. Berrain continued to dangle the keys, which clinked faintly against each other. Dr Novali finally spoke.

"I was just showing Earnest here—" he indicated Dr. Morgenstern—"what we found from that bone marrow we aspirated. No clumps, nary a one."

"Yes, well, any cells?" Berrain asked.

"Not enough to do a differential count, doctor, no, they were rare. A few 'C' metamyelocytes. And then some fat globules, debris and stuff. Degenerating cells, yes, we saw those."

"Maybe you should aspirate another sample."

"Well, we did, doctor. This here, what I'm telling you, is after two punctures. We figured we ought to try another."

"Unfortunately," Dr Morgenstern began, and the heads turned to him. "Unfortunately, no marrow samples were taken in the case of Mr Nolan, who was sick here some months ago. I believe only one sample is known to have been taken among the Japanese—that is, this early. There is not much for direct comparison—that I know of. I wanted you—I thought—"

He broke off, peering down over his glasses at Dr Berrain.

"Yes," said Dr Berrain. "I'm sorry to hear it. I want to have a look at the slides."

"Please look," Pederson broke in, and heads turned to him. His voice was so intense that Colonel Hough looked at him

sharply, and David, out of sight of Pederson within the cubbyhole but well within range of his voice, lowered his eyes.

"The marrow tissue, of course, everyone knows how radio-sensitive it is," Pederson said, speaking quite fast. "But this doesn't prove anything, really it doesn't. This tissue regenerates so fast, even while cell destruction is going on—that is, if it should continue. Really this doesn't prove anything, even as an index to the dose. And there are cases, too, I've been reading some, in animals, but among the Japanese too, some late samples in survivors were very bad, but they survived. Even as an index to the dose—I know that's what you're thinking of, but, Dr Berrain, look, there's an extra factor here, really very important, and you can't measure it. I mean the bone tissue scatters the particles much more. I'm sure you know, of course you know, but I mean to say had you thought of that?"

And he went on speaking, mentioning the energy build-up that you were bound to get in the bone because of its density, which meant—

Listening to him, still holding the key chain in his hand, though now it hung motionless, Berrain pursed his lips, glanced quickly at Morgenstern, and reflected that he did not know just how to deal with this. Out of his own habits of mental orderliness, he was checking off Pederson's points, even though the confusion that underlay them was perfectly clear: this extra factor was true enough for soft X-rays, but unfortunately they were not dealing with soft X-rays, they were dealing with neutrons. Would the calcium and phosphorus of the bone scatter *neutrons* into the soft tissues of the marrow? Not appreciably. Was the deteriorated state of the marrow, assuming Morgenstern and Novali had made no boners, therefore a reasonably direct consequence of the radiation dose? Reasonably enough. Was he in fact thinking of the state of the marrow as an index to the dose? Not particularly, since he already had indices enough and had confirmed them from what Wisla and Thiel had and had not said, but it certainly wasn't anything to ignore either. Was an error like this to be expected from a man with at least some experience in radiation sickness? Well, who could say?

Here it was, at all events, although he'd certainly come across worse ones, less understandable ones. So what do we do now? Why, we correct the error. And then? And then we take our fevered colleague out to lunch and try to persuade him that our patient needs a good doctor more than a good friend. I try my reassurances, he thought, then Wisla tries his, and now it is my turn again. So we soothe each other, but who will reassure the patient? Why, you and the nurse as much as anyone, I suppose, he said to himself, looking at Pederson, who had come to a stop now and seemed about to cry. Are you absolutely sure about what the patient needs? No. What a hell of a sickness this is! he sighed within himself. In an immeasurable fraction of a second a man is exposed to—what? To a blast of energy which, when it is more than enough to kill a man, is yet less than a hundred-thousandth of the energy spent by the whole body in the normal metabolism of one day—or is it more tormenting to put it that this blast affects directly no more than one molecule out of ten million in a cell of average size? And then? And then we wait for the untouchable processes of breakdown to spread silently and secretly, remote from any feeling of the patient, save for the burn, to total engulfment of the whole being, heralded in its time by that sudden sharp and awful fading of the white blood cells away. That is the index to go by. There is not another sickness like it. And it is going to be a tough few days—quiet, uneventful so long as the white count stays up, and tough. So what shall I say? he asked himself again. For if my young colleague's feelings are good and must be preserved, so must the rest of us, and anyway medicine is hardly to be practiced entirely on subjective lines. Not with a patient who knows as much as Mr Saxl does—nor with myself either, since it comes to that, he thought, suddenly irritable. God damn it, is there any reason why Morgenstern could not—?

But Dr Morgenstern, bending over Pederson and clasping and unclasping his hands, was already explaining. Mr Wisla, half risen from his chair in the little room, was explaining, too. And before Berrain could say anything—or, more accurately, before he did—Pederson turned to Novali, and the two of them



detached themselves from the little group and walked on toward the conference room just beyond.

Berrain watched, his sudden irritableness gone; what had really caused it, he was not sure; perhaps it was that he had been unadmittedly bothered by what he felt was the necessity of saying something which he did not enjoy saying, particularly in the face of Pederson's feelings. At any rate, now he thrust the key chain into his coat pocket and, facing Dr Morgenstern, said what it had been on his mind to say, strongly enough for his words to be general.

"Well, I'd like to have a look at the slides, as I say. But from what you tell me, and from what I've been able to see for myself, I think we ought to give that pathologist in St. Louis a call—Beale. I think—well, to be blunt about it, I think we ought to get him out here, just to have him here in case. Much as with Briggles."

"Why, I think so, I think that's right," Dr Morgenstern said. "To tell the truth, I did call him. Yes. In fact, I called him this morning, an hour or two ago."

"You called him," Berrain said, flatly, just as a statement verifying this unexpected fact. "Well, I didn't know that. What did he say?"

"Oh, he quite agrees with the seriousness of things. So far as I could tell him, of course, over the telephone. We didn't talk too much."

"I— Well, I see. But about getting him out here—do you think he'd be agreeable to coming out?"

"Oh, yes, yes, entirely so. The fact is, I asked him. To tell the truth, he should be on his way now." Dr Morgenstern pulled his watch from his pocket and studied it for a moment. "Oh, yes," he continued. "Why, I should say he'd be getting in the end of the day." He looked at Berrain most anxiously. "It seemed simplest just to get it done," he said. "Colonel Hough here has kindly agreed to pick him up," he added.

"No trouble," said Colonel Hough.

Berrain nodded his head to the left, and then to the right, and pursed his lips again. He half turned to look at the two physicists

at the desk in the cubbyhole; Wisla was writing again, David was looking out, turning his pencil still, and with the faintest suggestion of a smile on his face. Berrain suddenly laughed.

"I was telling Mr Wisla at breakfast that stupidity has no headquarters," he said, speaking to them all. "Perhaps it has—here," and he tapped his head. "Well, so be it," he said. "The abdomen is bad news, and the marrow is more. The simplest thing, as Dr Morgenstern so aptly says, is to get it done."

And as he spoke he reached into his pocket and pulled out the key chain again.

"Did he say anything?" David asked.

"He said that I ought to be able to use a car while I'm here. He said to use it as long as I liked and then he said I could give you the keys when I'm through."

The keys tinkled and no one spoke for a little while.

"I don't know what he meant," Berrain went on then. "Sometimes—I might almost say usually—if the ego, the sense of identity, is strong, even the least illusioned persons develop some softening refinement of the facts. Develop is not right, though. They build on something they've retained, from the time when life was a simple joy, if it was, or most simply of all on the fear of death, sometimes just on disbelief. You remember Rostov in *War and Peace*, and what he said when he lay there wounded and the French were coming at him: 'Why are they coming at me? To kill me? Me—of whom everyone is so fond?' It is not altogether silly, or arrogant. I suppose it's naive, but death can make a person very naive—it strips away so much. Well.

"He also said he'd like to wait one more day before letting his family know. And he asked me whether you'd heard anything from a friend of his—you'd wired her, he said. I can't recommend that we wait another day to call his family, but that's not up to me. At any rate, I was glad to hear him say it. I'm afraid he's wrong, and that's what's needed. He knows so much. Dr Morgenstern, I was going to ask young Pederson to have lunch with me. Might we all three have it?"

And Berrain and Morgenstern went down the hall to the conference room, leaving Colonel Hough alone in the hall, where

he was at once joined by David. For five minutes they talked quietly. Wisla came out, glanced at them as though he had never seen either one before, and left the hospital. Some of the doctors walked by. The steam whistle in the Technical Area, which was blown to start and stop each workday and to punctuate it for lunch, filled the air with its brief and wheezing sound.

"No," David said finally, "no, I'm not calling you a liar. I believe you are going to say something, but I don't trust what you're going to say. If you can hedge it, you'll hedge it. If you could avoid it altogether, you'd do that. For some reason I don't get, you've decided it's safe or advisable to go ahead, but your aim isn't different than it was. It's to tell as little as possible as inconspicuously as possible—SOP. All right. I'll tell you what, though. If what you put out is the travesty I think it will be, I'm going down to Albuquerque and sit down with every wire service in town and tell them what did happen."

"Don't do anything foolish, Dave," said the Colonel seriously.

"And if they want to do some investigating, they'll know what to investigate. I don't intend to do anything foolish," he added, "and I don't intend to see it done either. What a word to use! Don't you know what we're talking about? Don't you know what happened here?"

Investigate? said the Colonel to himself, watching David walk away. Why did he use that word? Ulanov must have told him about the Congressman—no, he would have mentioned it—well, Ulanov will tell him—but there won't be any investigation—they're all wrought up over nothing—should I call the General?

## 9

The sound of the noon whistle soared and thinned out, dying off across the canyons. The doors of the three schools on the mesa were banged open, and the children came running out. Their

fathers streamed from the many buildings of the Technical Area, through the high and guarded gates, and from the workshops and the offices around. The cafeterias filled, and on the terrace of the Lodge, among the tables under the bright umbrellas, the noon shift of waiters passed back and forth. Sidney Weigert and his girl were not there; they had taken their horses and gone riding into the Valle Grande; and the road had proved too rough; they were lying now wrapped around each other under the shelter of a tremulous aspen, in whose branches birds chattered to make the only sound in the world, for as it had turned out she had taken the news of the accident very well.

Berrain, Morgenstern, and Pederson left the hospital after a while and walked across to the Lodge for lunch. But their group had grown; two of the other doctors were with them, and a third came running to catch up with them. They stopped at the terrace, surveyed it, and decided it was too crowded; they went inside, to a big round table in the big dining-hall, which, because the weather was so nice, was otherwise deserted. Two or three of them ordered cocktails. For a few minutes the talk was desultory, touching on various items in the day's news. The Medical Society of the State of New York had just issued a statement forecasting wider medical uses of atomic-energy techniques; they talked about that briefly. But one of the doctors had noticed that in his paper this item had been flanked by a story entitled "Milestone in Push-Button-War Tests," telling how a Navy V-2 rocket had climbed almost seventy-five miles in the air, and by another story reporting that the Committee on International Peace of the Society for the Psychological Study of Social Issues was worried by the mental state of the nation which atomic problems had induced. Some of them laughed and some shook their heads.

"Did you read about the Eastman report?"

Stories about this had been on front pages all over the country only the day before; studies by the Eastman Kodak Company had disclosed that radioactive particles had, within a few days following the first atomic explosion, covered an area equal in size to the subcontinent of Australia; film put into containers made from midwestern strawboard had been fogged by the radioactivity

of the straw. They had all read about it; some of them shook their heads again.

"Someday—" one of them began, but he did not go on.

After that first explosion, one of the doctors said then, there had been quite some doings at Los Alamos. He had been here, he said, before the war ended, on a checking assignment having to do with routine radiation hazards in some of the technical installations; this had been just for a month or so, right around the time of the Alamogordo test, and he hadn't thought he'd ever get back here until Morgenstern called him in Los Angeles two nights ago. It had been an experience, all right, he said, although he didn't mean medically, for he hadn't done anything, he meant just in general. He remembered, for instance, thinking of that first explosion, how some of them who hadn't been supposed to know about it, except a scientist friend of his had—well, that was all too complicated and of no interest—anyway, some of them, including quite a few of the wives of men who had gone down with the bomb, gathered very early that morning on Sawyer's Ridge, a ski slope back in the Jemez Mountains, to watch for what was going to happen nearly two hundred miles south in the desert proving-ground. They waited for an hour or more, he said, in the dark and cold, and one of the wives started crying and couldn't stop; she had a friend who was alternately shushing her and comforting her, but she kept right on crying all the time. They were all worried, and some of them had just about given up expecting anything—or were thinking that something terrible might have happened—when, a few minutes after five, they saw the distant flash and then, a long time later, heard the long, slow rumble, quite faint really but almost more awesome than the flash, considering how very far away the source was.

And then towards the end of the day, he said, the ones who had gone down with the bomb started showing up; they'd driven, some of them in jeeps all the way, and they were filthy, and completely bushed, most of them, except they were full of excitement, too. But of course the wraps were still on; they didn't know whether anyone up here even knew about it—that is,

people in general, their wives, guys like me, he said. They hadn't talked to anybody but themselves.

"Well, you know," he went on, and he gave a short, nervous laugh, because he had just discovered that his recital had fixed the table's attention, and everyone there was listening intently and looking at him, and he was not used to this. "It's hard to get across. I was in the cafeteria about six or so, I guess it was, must have been, and about two carloads of them came in, six or eight of them. They all looked like tramps. Saxl was one of them, David Thiel was another. I remember they got just inside the door and stopped there and looked around. They were all standing together, these six or eight, but, you know, real close together, like half a dozen guys going into a tough bar maybe, or anyway—well, as though they were going to stick together anyway. It was just that they didn't know how to act, not knowing who knew what, I guess, but I remember this funny look they had there. Like—well. Anyway, after a couple of seconds there was a yell from someone in the middle of the room, and then some more, and all of a sudden the goddammedest hullabaloo. You could hear dishes drop and people were running over. Saxl and Thiel and the rest were all covered with people. And all these voices going at it. It just went on like that, excitement and relief, and God knows what all pouring out. It just went on like that."

He finished and dropped his eyes to the table and started rearranging the silver in front of him.

"Well," one of the doctors said, "that must have been an exciting time, all right."

Berrain looked at him with fascination. "But that's a wonderful story!" he exclaimed. And Morgenstern nodded his head slowly, several times, up and down.

They were halfway through lunch before anyone mentioned the radiation cases; thereafter they talked of nothing else.

Pederson, sitting between Morgenstern and Berrain, did not contribute much to any of the talk. And before the lunch was over he excused himself; he wanted to get back to the hospital to set up the glucose injection for Louis. Berrain watched him

leave, as he had watched him approach across the lawn several hours before.

A few minutes later, as they were getting ready to go back, finishing up their coffee, paying their bills, Colonel Hough came into the room. He stopped some feet away from the table, motioned to Morgenstern, and waited impatiently, looking this way and that, as the doctor got up and came over to where the Colonel stood; and he began to talk, in a low voice, as soon as the doctor reached him.

He was having lunch on the terrace with a Congressman who was passing through Los Alamos on a quick visit. The Congressman had got it into his head that Louis Saxl was a Communist—this was just what the Congressman had said and the Colonel knew very well where he'd got the notion, namely, from some of that prime fool Ulanov's overheated guff—and now he was demanding that he be allowed into the sickroom to ask Louis some questions. The Congressman, Colonel Hough said, standing almost on tiptoe to get closer to Morgenstern's ear, was getting loud and people on the terrace were beginning to look at them. He couldn't seem to get him off the subject or even postpone it to a better time and place. What, in the name of God, could Morgenstern do about this? It was out of the question, wasn't it? Could the Congressma. be refused entrance? He could, couldn't he? What way of doing that would cause the least trouble all around? Wasn't Morgenstern, as the doctor in charge, the man to do it most simply? Particularly since the civilian director was away?

"Coming from a doctor—" Hough finished.

Morgenstern listened to all this attentively, with his head cocked and his eyes on a deer's head hanging over the dining-hall's big fireplace.

"I should think—well, of course he can't see him. I should think, though—can't you just tell him so? Did you tell him how sick Saxl is?"

"I told him," said Hough, "yes, I told him that." But a doctor, he added, could tell him much better.

"Did he say why it is so urgent to see a man so sick?"

"Why don't you just see him?" Hough asked plaintively. "Why don't you just tell him it's medically impossible?"

"All right," said Morgenstern. "Where is he?"

But Hough jerked back his head at this. Not now, he said; he would bring the Congressman to the hospital; it would be much better to handle it there.

The doctors had been talking about the possible influence of extensive chilling on body temperatures when Morgenstern left the table; he had been much interested in this, for it had already occurred to him that Louis's temperature, so anxiously and hopefully watched by Pederson and indeed by all of them, might have been held down by the ice packs. But the subject had shifted when he got back from seeing Hough. They were discussing Haeber, the patient who had been just behind Louis at the time of the accident; the barrier of Louis's body had certainly saved him; he had received, in fact, a very interesting dose—just enough to give him the typical symptoms of the acute radiation syndrome in quite a pure form, without burns, without much risk of serious infection, and almost certainly without the possibility of any serious aftermath.

"Although we'll have to keep tabs on that one for a while," one of the doctors was saying. "I'd expect we might find something a little special in the blood picture three or four years from now."

Morgenstern said nothing of what Hough had told him. Still talking busily of one aspect or another of the radiation cases, the doctors left the Lodge and walked back to the hospital. By the time they got there Morgenstern had succeeded in getting the discussion back on the subject of body chilling and body temperature.

From the terrace, Colonel Hough pointed out the doctors to the Congressman as they were walking up the path from the street to the hospital stoop.

"He's a fine doctor and you'll find him a very reasonable man, too," the Colonel said. "If it's possible at all, I'm sure he'll be glad to arrange it. You know how doctors are—like ship captains,



the whole law in their own bailiwicks. And of course it's a medical matter, entirely a medical matter."

"If I may say so, Colonel," the Congressman said, "the national interest and security kind of take precedence over medical matters."

But he said this calmly enough, and Colonel Hough's embarrassment was no longer acute.

"Oh, I certainly agree with that," he said.

At two o'clock that afternoon, as scheduled, Louis had his drip injection of glucose in saline. He continued to feel quite well, except that the pain in his left arm was incompletely controlled by the refrigeration. He was given morphine for the pain this time, and shortly afterwards fell into a very peaceful sleep, during which several photographs were taken and two Geiger readings were made without disturbing him in the slightest. He slept through most of the afternoon and awoke feeling very hungry. The pain in his left arm had either diminished or had ceased to bother him.

He was not disturbed, either, by the visit of the Congressman and Colonel Hough to the hospital about three o'clock. The Congressman and the Colonel met Dr Morgenstern, who was accompanied by Berrain and Wisla, in the conference room. They talked for ten minutes or so, after which the Congressman walked out swinging his shoulders, and speaking loudly again, not to the doctors and the physicist but to Colonel Hough.

"You screwed me, you son of a bitch," he said. "You knew goddammed well that's what they'd say. But I'm taking no run-arounds from a bastard like you. Hang on, you'll see."

For half an hour or so during the early part of the afternoon David Thiel was in the cyclotron machine shop looking at the reading-machine which was nearly ready to be given Louis; half a dozen people—physicists, engineers, and machinists—had had a hand in it; it would be clamped to the end of Louis's bed, it had a long arm which would hold a book in front of his eyes, and a foot pedal operated a motor which drove a linkage which would turn the book's pages one by one—or would do so as

soon as a tendency to skip pages now and then could be ironed out of it. Dombrowski himself, one of the best machinists around, was going to work on it as long as necessary; the machine would be ready for him in the morning.

After this, David went down to the laboratory in the canyon. There were two soldiers at the door, both new since the accident. The soldier who drove David down stayed outside to talk with them; there was no one inside. The room had been straightened up to some extent. David himself had reassembled the critical assembly which Louis had knocked apart; he had done this the night after the accident, when he had run through the experiment twice. Since then many people had been in the room, checking and calibrating the monitoring and counting devices which were part of the room's equipment, making the most careful measurements of the assembly's physical dimensions, measuring distances and sighting angles from the assembly to such footprints as had been chalked in immediately after the accident and from these to all the scattering surfaces in the room. This work had all been done; from the findings of it the computations which David and Wisla had been making during the morning and which others were continuing could proceed to the dosage estimates. Or to a fair approximation of the doses. The amount of radiation delivered by a standard X-ray tube can be established accurately with a single reading of an appropriate measuring instrument. But the radiations that had flared out from the critical assembly under Louis Saxl's hands had been so varied, so intense, and so complex in their actions and interactions that no one really expected ever to know them precisely.

Here at the source, at all events, there was nothing more to be learned. For a few minutes David sat on a stool just inside the door. He could hear the drone of the soldiers' voices outside, but there wasn't a sound in the room itself; sunlight sifted through the row of windows on one side of the room, catching an edge of the table on which the critical assembly stood.

The table was no more than a simple framework, undressed, crude, and efficient in appearance; its legs and bracings supported a metal top, and on this, in the center, a number of grayish bricks

of a smooth, metallic material had been arranged to make a cube-shaped pile. The pile presented no face, no handle, no entrance; its sides, broken only by lines demarcating the edges of the bricks, were smooth and identical. Over the rest of the table top a variety of objects were scattered; two large open notebooks, a tumbler full of black and red pencils, several ordinary tools—pliers, screwdrivers, a small hammer. Half a dozen small blocks of a brownish metallic material lay at one end; and an empty soft-drink bottle stood near them. From the concrete wall just beyond, the patterned faces of several dials and gauges looked out across all this; from the wall, too, a small superstructure extended, and hanging from it, reaching down almost to the centre of the top of the neat, cube-shaped pile, was a thin wire. It hung free, but it was motionless.

David got up from his stool after a while and walked across to the table, moving carefully to avoid areas where the residual radioactivity was still fairly strong, and then, for half an hour, he studied the notebooks. When he finished, he looked among the small brown blocks on the table, picked one up, and moved it around in his hand. It was about an inch and a half wide and about half an inch thick; but it was in reality two pieces, for part of it was a plug or core which fitted smoothly into the other part. David pushed the core in and out, ran his fingers over the block with the core in and with it out, hefted it both ways, tossed it, held it and moved it with his eyes closed, and finally put it down.

Some time after he left the laboratory David stopped at Louis's dormitory room. It, too, had been straightened, but except for the dormitory maid, who had given it an obvious minimum of attention, it had been empty now for nearly three days. A spray of columbine, probably picked during the last weekend, drooped at the closed window; the air of the room was dead. The water fins that Louis had bought for the Bikini trip were on the desk. David knew this room as well as any at Los Alamos, including his own. It was in one of the log buildings left over from the boys' school, and was therefore bigger and more comfortable than most; for that reason many parties had been held here; one had

been planned for the night before as a going-away party, and a case of beer bought for that occasion stood just inside the door. A bottle was missing from it, and David stopped to look at the empty compartment, puzzling vaguely about this. But the air of the room was still and disagreeable, and David did not stay. He had come to pick up a book that Louis had asked him to get. He got it and left at once.

## PART 4

**Thursday evening: *there's a brightness  
in all the rooms***

### I

Towards the end of Thursday afternoon a dull military plane touched ground, rolled across the small Santa Fe airfield, swung back, and came to a stop near a waiting military car. Two officers, a colonel and a lieutenant, walked forward from the car. For a moment there was only the soft sound of the idling motors, then these were cut off, and a ground man moved up with a dismounting-stair, which he pushed against the plane's side. The door in the side opened and a soldier came out. He was followed at once by a civilian, a plain man in a plain grey suit, who carried a large brown bag in one hand. The soldier and the civilian stepped down the stair and the civilian walked directly to the car, the officers falling in with him. Beside the car they stopped briefly and there was some conversation, a few questions and answers. Then they all got in and the car moved straight down

the field to a gate near the end; the car turned through that into the road that led to Santa Fe, and, gathering speed, moved along it.

The soldier had stopped to talk with the ground man; they both watched the car drive away.

"A chicken colonel and a private car to meet him," said the ground man. "Who's he?"

"Well, I don't know, excepting he's a doctor," the soldier said. "Didn't say a word."

"Where from?"

"From St. Louis."

"Didn't say a word in all that time?"

"No, he didn't say a word in all that time, like I just told you."

"That's Colonel Hough from the Hill. He's not a bad guy. I met him once."

"What hill?"

"Where they made the bomb. Los Alamos. Everybody calls it the Hill."

"Well, he didn't say anything about it," the soldier said. "This isn't much of a field," he added.

"Planes like yours shouldn't ought to use this field. It wasn't meant for those kind of planes. You should've gone to Albuquerque."

"They said to come straight here."

At the entrance to the sprawling, pink-clay, fancy-simple hotel in the center of Santa Fe the car stopped and the civilian got out of it. A bellboy came up to him, reaching for his bag, but the man shook his head. Colonel Hough spoke to him from the car, and he listened with his head half turned away, his eyes looking through the bright corridor that ran from the hotel's entrance back to the big lobby, on the far side of which, visible even from the street, was the hotel's barroom.

"Well, so we'll leave you here for the time being," Colonel Hough was saying. "I'm sorry about this arrangement, but you know—"

"Yes," said the man, "only keep me posted. And Dr Pederson, be sure he calls right away. I'll be here. I'll be in my room or in the bar, one place or the other. Let me know."

He walked inside and gave his name to the clerk, a young girl, not more than nineteen, in a peasant blouse and a bright print skirt.

"Oh, yes, sir," she said, "your room is ready. Will you be staying with us awhile, Dr Beale?"

"I have no idea. Do you have to know?"

"Oh, no, sir, not at all. They told us—"

"Well, you'll have to ask them, then."

My, my, aren't we touchy today, she thought; you can't tell a thing from the way they look.

"Any particular number you can be reached at? If you're out?" she asked.

"I won't be out," he said. "I'll be in my room or the bar there, one or the other."

The doctor went to his room and sat on the side of the bed looking at nothing in particular for five minutes. Then he took off his clothes and lay on the bed. After a while he picked up the telephone book and turned its pages slowly.

"St. Vincent's Hospital 210 E Palace Ave 3-3366," he read aloud. He put the book down, pulled his legs up, each in turn, and rubbed a finger between his toes.

*"They get 'em when they're young and they get 'em when they're sick,*

*Oh, the Holy Roman Catholics, they never miss a trick,"*

he chanted. He lay on the bed a few minutes longer. Then he got up and opened his bag. He did not take a shower and he did not shave, but he managed to occupy half an hour doing what would normally take him five minutes. After he had changed into a suit one shade darker than the suit he had taken off, he stood in front of the room's window and stared out of it. It gave him no view. It looked across the inner roof that half covered the hotel's central patio; but the body of the hotel rose a story above this roof, and against the polished late-afternoon

sky all he could see were the flat tops of the towers of St. Francis Cathedral a block away. He stood there looking out, listening to the murmur of voices from the patio below, until the phone rang. "Pederson," he said as he went to the phone. "Yes?" he said into it, in the same tone of voice.

"Yes," he said again after a moment, "it was all right if you don't mind sitting all day in a C-47 that should have been junked two years ago. It was all right."

"Yes, sure," he said after a moment.

"Sure I know," he said after another moment, "but I hope you know what this is, sitting and waiting, don't you?"

"Only what I heard on the phone," he said after another moment, "and what the Colonel told me, which wasn't much. When are you coming in?"

"I see," he said finally. "Well, I'll meet you in the barroom. Make it when you can."

After he hung up the phone, Beale left his room at once and went directly to the bar. It was nearly six, but the room had not yet begun to fill. Beale sat down at a large table in one corner, a table big enough for eight, with upholstered wall-benches half enclosing it. A waitress came up to him; she had on a long black skirt with four bands of brilliant colour round it; Beale stared at her skirt long enough to embarrass her, then looked up slowly and crudely, letting his eyes rest briefly on her breasts before he looked at her face.

"I'd like a bourbon and soda," he said.

"Will you be having dinner here?" the waitress asked him.

"I don't know. Probably."

"How many of you will there be?"

"One more."

"Oh, just two of you? I wonder if you'd mind taking a smaller table, sir? We'll need this table for a larger party."

"Let's say there'll be six of us, some of whom may not show up. Can I have that bourbon and soda, please?"

Yes, and I know what I'd like to put in the glass instead of bourbon, she thought; the insolent son of a bitch.

Beale had one drink, then another, and then a third. The room



filled. The headwaitress came over twice to ask if he wouldn't move to a smaller table. With his third drink he ordered dinner. With his coffee he ordered another drink. It was now nearly seven thirty. During this time he had read nothing, talked to no one, and, in fact, had hardly moved. He was drumming quietly on the table, holding his glass halfway up to his lips, studying an ornate Mexican tin light fixture which hung above the big table, when Pederson appeared.

Pederson, obviously tired, obviously out of sorts, spoke with no fluency; he fumbled with his words and repeated himself. But he moved from approximately one point to approximately another. Dr Berrain or Dr Morgenstern would have covered the subject in much less time, but they would have done it differently. From the fumbled words, Beale learned at last more than Pederson could bring himself to say.

"As you can see, the picture isn't altogether clear," he said carefully near the end of his recital. "The serum phosphorus and the serum sodium don't jibe at all. As I've said, I don't know what this means and I can't get anyone to tell me what it means, but it must mean something. His temperature hasn't showed any signs of going up. I told you that, too. Well, the over-all picture isn't good, of course, not with that abdominal erythema, and the marrow, but we can't let that blind us entirely. There are some hopeful signs, don't you think? Like the— Well, I guess I've said all this."

Beale had met Pederson at the time of Nolan's death, but only for a moment, and he had, in any event, forgotten him. Swishing the liquor in his glass, listening to Pederson now, watching him, Beale wondered how old he was; not more than twenty-eight, maybe twenty-seven, Beale thought; not more than a couple of years removed from his internship. Theoretically, Beale thought, I am old enough to be his father; in the hot countries I could easily be his father; I don't look that much older, he thought, I simply do not look it, and I don't know how much older I feel. Louis Saxl would be thirty or thirty-one; in a very hot country I could even be his father. Oh, the poor bastard, what a mess.

"You're the pathologist," Pederson was saying. "Do you—you haven't been saying much—what conclusions are you getting to?"

From the vent of an air duct in the wall a little way from their table a deep, beating sound was coming in a rapid, monotonous rhythm. Beale had been listening to it off and on for a long time, with annoyance to begin with, then with interest as it seemed to combine in his ear with the voice sounds of the room, giving their randomness a bass beat which throbbed through the voices of the women and the voices of the men like the drum sound for a tribal dance. Dola-rum, dola-rum, dola-rum, Beale said to himself; dola-rum, dola-rum, dola-rum, dola-rum, dola-rum.

"I don't understand you," he said to Pederson, "you don't make sense to me."

"No? Where don't I make sense?"

"You talk like you wish he had a chance and so you've got yourself thinking he has a chance. But he hasn't got a chance. Wish it, we all wish it, but don't clutter up the picture."

Pederson looked down at the floor, then back at Beale. He started to raise his glass, then stopped. He relaxed the pressure of his fingers on the glass, slowly, and it slipped down, and fell to the floor. Beale sat straight up in his chair, heads turned, the waitress started over toward them. Pederson, his arm still half raised, spoke to Beale.

"All right. That's the opinion of the visiting pathologist. Don't you clutter up the picture with what you came out here to do. I suggest you think some more. Louis hasn't written himself off. Maybe you should talk to him—" Pederson stopped, stood up, stared down at the puddle of glass and liquor on the floor, and then went on, quietly.

"No, you can't do that. Of course, you mustn't do that. No, you stay right here. Most of them feel like you do. I don't."

Beale had slumped back on the cushioned bench again, had turned his head to watch the waitress cleaning up the mess of Pederson's glass right beside them. He said nothing for a moment after Pederson stopped talking.

"Sit down, you damned fool," he said then. "This isn't your

first case. No, I'm sorry, I'm sorry, sit down. I know how you feel. I've known Louis Saxl for fourteen years. I—sit down."

Pederson did sit down and Beale spoke to the waitress.

"I'm sorry, miss. Forgive us. We're wrought up, my friend and I. Bring us another, will you, and here, please take this?"

She took the dollar bill he held out and walked away. She said nothing. Beale ran his hand over his face and squeezed his eyes with his fingers. He stared at Pederson, sitting in self-conscious quiet, and squeezed his eyes again. The succession of drinks was beginning to affect him. And about time, he thought.

"No, really," he said, "let's get off this for a while. I'm sorry. Opinions are possible, of course. Say, tell me, how well do you know Louis?"

"The trouble is," Colonel Hough had said in the car, "if he knows we've brought you out here he'll know we've given up hope. And yet the doctors tell me they want you here—they seem quite in the dark as to when it might happen. I understand that even a thirty-minute delay cuts down what you learn from the tissues after death. Just what happens to cause that, doctor?"

"Fourteen years," Beale was saying to Pederson. "I had him in a class I was teaching at Chicago first year he came there. Just for a few years around then I taught. I was all over the place then. *Quelle confusion*. I instructed physicists in biology, studied physics, had an internship, all at once more or less. Hardly knew what I was—who does? Anyway I picked biology, so naturally I'm a pathologist and wish I were a physicist. What more natural? Half the physicists I know are going into biology now. We'll all be one in the end, I suppose. I haven't had anything to do with your project out here, but I was in at the beginning of it. 1732 to 1734. That's when we got down to cases. Lot of dumb bastards in the science business before that."

"It couldn't have been as pat as all that," Pederson said glumly.

"Of course not. Who says it was? I'm being impressionistic. More or less, roughly speaking, by and large, so forth and so forth. Anyway, it happened."

"The difference between the twenties and the thirties must

have had a good deal to do with it," Pederson said. "You got a more serious—"

"By the time the bright ones came along, there I was, teaching them," Beale went on. "A joke on them. Oh, yes, the twenties and the thirties. But that's not what accounts for it. You had revolutions in the early thirties, when I'm talking about. Colossal discoveries. Like when they came on X-rays and radioactivity in the 1890's, and then the electron, and radium, all in three or four years. What a big thing those things added up to, that leak of energy from the middle of nowhere. Hah! There's a friend of mine writes doggerel, wrote the history of science in a hundred and thirty-two stanzas. He sings it to himself instead of falling asleep at conferences. There's a stanza in it:

*"Oh, off with the shiny, anointed coat of the nineteenth-century atom.*

*It leaks! It seeps! It's a thing of parts—a very significant datum. The king is dead! Long live the king! Hail the radiant sub-atom!"*

Beale delivered these lines in a sing-song voice, rocking his glass to mark the beats, matching the beats to the throbbing dola-rum, dola-rum coming from the air vent. He had slumped even farther back against the cushions. Pederson was watching him uncertainly. And a little girl had stopped to watch him, too. She was the tag end of a procession of half a dozen people being led past Pederson and Beale from a table in the barroom to a table in the dining-room beyond. At the head of this procession was an elegant lady who was lame; she supported herself on the arm of a younger woman and in one hand she held high a glass; her features were small and birdlike, and she moved in little, shuffling steps that set the pace for all her family. The family resemblance ran like a banner from rank to rank in the procession, to a son behind her, a daughter behind him, two adolescent boys, and this little girl. The little girl had detached herself and was staring gravely at Beale, who was now staring back, still rocking his glass. He leaned out over the table toward her.

"It leaks! It seeps! It's a thing of parts!" he intoned.

Contempt came into her expression. She looked at him a moment longer, and then, with dignity, turned and walked on.

"Well, anyway," Beale said, slumping back again, "it was the same in the early thirties. They'd probed around in the bowels of the atom for forty years and then they were getting a little uneasy—didn't really know where or how to go next. Come 1890, things were at a pause. Then came the neutron, the positron, and heavy hydrogen, all in a year. And more besides. Then artificial radioactivity. All this made for excitement. And the excitement, that's what brought the bright ones in. Whether they knew it or not—that's the way it works."

Pederson was looking gloomily into his glass, glancing at Beale from time to time. If Beale had not had much to say before, he was more than making up for it now. Pederson was feeling sorry for himself. He wanted to be at the hospital, where there was nothing for him to do except to represent the cause of hope. He most especially did not want to be sitting here in the bar listening to Beale telling him more than he wanted to know about things which he did not in fact know but considered to be probably elementary and hence uninteresting. Moreover, he was shocked at what he considered Beale's gross insensitiveness to the assignment that had brought him here from St. Louis. Pederson did not like Beale. He did not like the very sight of Beale, sitting slouched against the cushions, drinking, drinking, running on. He is good, though, Pederson thought, I know that; if only he would crawl away by himself until—oh, he'll see, he'll see, he thinks he knows it all, the bastard vulture, oh goddam him, goddam him.

They had explained the arrangement to him; he had agreed to come into the hotel, to keep Beale informed, to talk—

"Now you take Louis," Beale was saying.

Please, oh, please, Pederson said to himself.

"It wasn't this excitement that brought him up to Chicago," Beale went on, "no, I don't know what it was, maybe he had a good teacher somewhere along the line—unlikely, though, high schools being what they are—maybe his parents, anyway he didn't know anything. The things he didn't know! But he had this curiosity, he had that. Maybe Jews have more of it, that's

what they tell me, only I never saw it. I've known some awful dull Jews. Dull or bright, though, they always seemed to me ninety-seven per cent like everybody else. What people make out of the other three per cent! Goddammit, everybody's ninety-seven per cent like everybody else. Every goddam one of us has got the blood of Tutankhamen's grandparents in him. Don't look so glum, cousin. Call the cousin *señorita* and we'll have us a drink. Drink, drink, doctor wants a drink."

But nobody said I had to wet-nurse this character, Pederson thought; I don't know why I just sit here, I won't sit here, I'll stick through one more. Why doesn't he get sleepy, after all day on that plane? I'm not going to put him to bed, he can take care of himself if he passes out. He's a vulgar bastard, although everyone does say he knows his stuff. I wonder if he really knows Louis so well or if he's just talking.

"Although the Jews do have a curious kind of religion," Beale was saying. "It's as full of nonsense as any, still I don't know, it does seem to come a little closer to real life now and then. That set of rules for how to behave in the sickroom, right out of the Talmud, very intelligent rules, too—you take that one, be careful to sit so your eyes aren't too far above the sick person's eye level. Good sense. Well, Louis had this curiosity, *sine qua non*. I've seen some who came with it and lost it first thing. Maybe you aren't interested in things like this. The high schools pour out a lot of these boys that don't know anything, just enough to know they'd like to know something. I'm not counting the tinkerers and the home-workshop boys either—they've got some curiosity, but they satisfy it awful easy. Well, in 1890 the kids that really had it, they ran into this excitement, like Louis did. Of course, some of them never got beyond the excitement. It was all big doings, new frontiers, ain't it great to be alive with all this going on—they just made pap out of something real. The excitement was the sugar, but the pill was plain hard work, just like always. Only there was more to work on. Just the neutron, all by itself—what a concept, a most fruitful concept as we men of science say. Your project started there, and Louis was the kind of one who started it—one who—yes—"

The waitress had brought new drinks and Beale was well into his. But he was sitting up straighter now and some quality of indolence or cynicism had gone out of his voice. Pederson noticed this and contemplated his glass more steadily than ever. He was sober and Beale was not. He was young and Beale was not. He was—diffident?—and Beale was not. He was unknown and Beale was not. He was trying to save Louis Saxl and Beale was—For all these reasons he could not look at Beale. The change in Beale's voice came to him like a change in temperature, invisibly affecting the climate in which they sat. And it seemed to move the centre of the table from Beale's side a little towards himself. He found himself wondering, for the first time since he had asked Beale his medical opinion, what Beale would say next.

Pederson toyed with his glass and waited.

"Well, so," Beale said at last, "it's been a long day. When did it happen? Tuesday, this is Thursday. So."

There was another long pause; Pederson waited.

"It's the counter-attractions that usually get them. All those counter-attractions. Marrying, begetting, settling down. If it doesn't drain off their curiosity, it surer than hell drains off their capacity for work. Even so, some live through it. Then a company comes along with a custody offer. That does it for so-and-so and so-and-so. Applied physics, applied this-and-that, engineering, technology. Dear Father, this is very useful and has made us what we are today, although not entirely—no sir, not entirely. Does it give you pause that virtually all of the science that went into this project came out of Europe? Not just most of it, but vir-tu-al-ly all of it? I pause. I pause. I yield to no man in my admiration for the tool-users, but all hands and no head makes somebody a dull boy, or will someday. Poor Louis. He was a little island of something we need more of. Oh, well, the hell with it. Who said we had to talk this way?"

Poor Louis, he was— Pederson noticed it. The words washed out the promise he had sensed in Beale's voice a few minutes before; and his earlier anger, which had trickled off into exasperation, which had in turn run shallow under the stirring of his interest, flooded back into him. Because at this moment he hated

Beale, he felt it necessary to hate what Beale had said, even though what Beale had said exalted Louis.

"How well do you really know Louis?" he asked Beale, sitting up and leaning across the table for almost the first time this evening. "You make him out a precious kind of person that doesn't mean anything to me and I doubt would to him. We need more of him, all right, but not because he's the superior double-dome you make him out. And what's wrong with tools? Louis's a first-rate tool-user, and that's one reason everyone respects him. They do *not* respect him, you can take it from me, because he sits all day mooning over his lost opportunities in science spelled with a capital S. I dare say you know a great deal about these things. I don't pretend to. Maybe you know so much you've forgotten science is meant to serve people and not the other way round."

"God bless us," said Beale, staring at his revitalized companion. "And so you've been serving people here with your bombs? Well, to be sure, so you have; relax. You've been serving some people at the expense of others. God *bless* us! Don't turn me in yet. I'm right up among those who can justify this on grounds of necessity—my friend Hutchins spoke of it at the beginning. We will achieve no victory, said he, but we can stave off defeat from one spectacular direction. Well, we done it—spectacularly. God bless us all, all on our side. But forgive me if I vomit at the mention of science serving *people*. You haven't been practicing science out here anyway. Been in the manufacturing business, turning out a new product. My friend Louis knows this perfectly well, which is one reason we need more of him. Nothing wrong with tools, all scientists are tool-users. But there's a difference between just using tools and understanding them, and my friend knows the difference. Do you? Why don't you talk like you do? I keep saying we don't have to talk this way, don't have to talk at all for that matter."

"You're a cold fish," Pederson said, "you're about the coldest fish I ever saw. You talk about your friend Louis, you've known him fourteen years, and you sit here and talk, talk, talk about him as if he were a specimen. Is that all a friend means to you?"



Do you *like* him? Do you have feelings when you think of him lying thirty miles from here in the shape he's in?"

Beale passed his hand over his face, one side and then the other, and squeezed his eyes as he had done earlier. He looked at Pederson, and smiled; and let his gaze travel around the room as the smile retreated before a frowning, puzzled expression.

"A terrible thing not to feel," he said, still looking around. "It's the curse of modern man, isn't it? But is it because he can't feel or, confronted by problems beyond him, doesn't know what to feel? It's his curse in either case, in one as much as the other. If he can't any longer feel, he's doomed to the jungle, where this isn't required so much. But if he can't keep his problems in range of his feelings, he's doomed too, to jungles of decisions that don't decide anything, while his doom is decided for him. And then still a third doom occurs to me, you know, because just in the physical sciences, just in a project like this one out here, there come times when feelings have to be put aside, they'd make a hand tremble or divert the mind or upset those very dispassionate controls necessary to keep those enormous forces in check. Maybe it's best not to be able to feel at such times, but then what of all the rest of the times? Or if one knows how to feel and what to feel, why, then, what a terrible discipline is required at those particular times. Feelings can be bad things in a physicist, most particularly a physicist making bombs. But then a physicist who doesn't know how to feel and who's making bombs—well, I don't know, would the other be as bad as this? An impasse! You pose a serious question when you get on feelings, my friend. How did Louis come to die? I beg your pardon, how did he come to make this slip that exposed him to so much radiation? Who can tell this? I doubt very much he knows for sure himself. What makes a trained hand slip? Still, you've got to know before you know, I mean, before you know how you feel about it, you really do."

"You've certainly answered my question," Pederson said. "You've answered it, all right."

"Still I have feelings."

"Hurrah," said Pederson.

"Yes," Beale said. "Yes, in answer to your other question, I know Louis quite well. Did you know I'm old enough to be his father? And yet I cannot honestly, not really honestly, say I feel worse about him than I did about all the people of Hiroshima and Nagasaki who were killed by the bombs he helped build. Can you, can you really? It doesn't matter. Which would you rather avoid seeing: a man killed by a truck or a parade of people marching? What a terrible thing a parade is! It makes you think of all people everywhere, all at once, and, whether this fills you with compassion or loathing, it's too much, too much for either feeling to be endured. How lonely, yes, let me tell you, how lonely and even a sad, ridiculous thing is a person, one person in this parade, any marching parade. Not so the man killed by the truck, lying there. Can you look at him except somberly? Or the young man lying thirty miles out from here, Louis? It is sad, by heaven it's sad, but it's endurable. When it can't be endured, don't you understand, is when you think of him as one among others, sixty thousand at Hiroshima, fifty thousand at Nagasaki, whatever, but worse, much worse, among the millions who never found what they were looking for, who got just to the point and then—something happened. Perhaps an accident or a fear maybe, or maybe some kind of refusal, or—Do you know? Do you know what makes a trained hand slip, what makes the mind fail to guide the hand for a moment, what acts on the mind?"

"Dr Beale, I can't listen to any more of this, I really can't. You said back there I didn't make sense to you, but you've talked a great deal more than I have—you've really talked a great deal—and I can't follow this stuff, I don't want to follow it. Louis Saxl had an accident. He's my friend. If he's your friend, too, you couldn't have a finer one. An awful lot of people out here feel this way. He's just had an accident and he's very sick, but he's not dead yet. I'll talk all night, or listen, if you've got any ideas to help. But the parades and all that. I can't take any more."

Beale suddenly stood up.

"Gotta take a leak," he said. "Sir tight, don't move." He pushed against the table to get past it, fell back on to the cushions again,

got up again, carefully moved out past the table, and started walking slowly, carefully, away. After two or three steps he stopped and turned back. "Just felt a leak coming on," he explained, looking at Pederson with a most intent expression. He walked on two more steps and turned again. "Order me a drink," he said. Walking very carefully, more like an old man than a drunk one, he moved on out of the room.

After ten minutes Pederson went out to look for him. Beale was not in the men's room, nor anywhere on the route. A phone call to his room got no answer. There was no sign of him. Pederson was angry, annoyed, but relieved, too. Now in a rush he wanted to get right away, and now he could with no long-drawn-out leave-takings. He went back to the barroom, paid for his three drinks, and signed Beale's name to the check for his drinks and dinner. He left the hotel and, walking faster with every step, went to the parking-lot round the corner. He drove his car out and through the centre of town as fast as he could, pushed his speed up from block to block as he neared the edge, and by the time he was a hundred yards up the long hill with which the road to Los Alamos began, his speedometer said seventy.

After twenty minutes or so on a bench in the plaza Beale felt better. From the bench he saw Pederson leave the hotel and round the corner to the parking-lot. He looked at him without interest. He sat alone on the bench, but on the other benches were many people, old men, some old women, young men and girls together, groups of boys talking in voices that rose to higher pitches, broke in loud laughs, and fell to quiet again. There was a small, steady movement of people across the plaza in all directions. The automobile traffic on the four streets which bounded the plaza had fallen off to an occasional car. The leaves of the trees rustled. Beale sat and let his eyes follow the girls that walked past. There were Americans and Spaniards and Indian girls, and many of those who walked through were mixtures. Most of them walked through rapidly, ignoring the calls or whistles that occasionally came from the boys. Some stopped

and talked for a while with one or another of the boys. None spoke to Beale, whose eyes followed each of them.

After an hour or so the girl from the telegraph office came into the plaza with a slow, sauntering walk. She stopped and looked down at Beale on his bench, and said something to him. He shook his head and waved her away. Again she spoke, moving closer to him and leaning down over him. He waved his hand again, and she turned and continued her slow, sauntering walk across the plaza. There were only a few people in the park by now, and the sound of her heels clicking on the walk was the loudest sound to be heard. The sound and the girl together faded out down one street or another while Beale sat watching.

## 2

At the guard-house gate Charley Pederson slowed his car, held his pass up for the soldier to see, and started on through without stopping. But the soldier called him, and came running to the car.

"You going to the hospital, Dr Pederson?"

"Yes."

"There's a letter here, for Louis Saxl. A special. It'll be going up in twenty minutes or so, but I thought maybe—"

"Sure. Where is it?"

The soldier ran back into the guard house. The motor of Pederson's car idled softly. He sat motionless, his eyes on the small glow in the sky which came from the lights in the Technical Area. The soldier came running back, and Pederson took the letter, a fat one, heavy with stamps. The envelope bore the insignia of the Santa Fe Railroad and the postmark had been put on at Chicago.

"Are things going all right, doctor?"

He turned it over. On the back flap was scribbled "Theresa Savidge," no address.

"Doctor?"

Pederson turned to the soldier and nodded rather absently. Then he smiled at him.

"Thanks," he said. "I'll take care of it."

Perhaps Dave Thiel could tell him what to do about this, he thought. He shifted into gear and the car pulled forward. But what was his problem? Why shouldn't Louis get his mail?

"So I'll talk to Dave," he said aloud, doggedly.

David was not at the hospital, however. Pederson called his room, but got no answer. He put the letter in his pocket then, and went along the corridor of the hospital to the end farthest from the conference room, turned and went down a side corridor to the end of that. Down here, in the hospital room which had been converted the day before into a laboratory to serve the seven radiation patients, Dr Novali had his headquarters. He stood among his microscopes, his slides, and his counters, backed by trays of needles and flanked by jars of dyes. Two autoclaves were by the window; steam connections had been made to them only that afternoon. A flame photometer stood on a wobbly table. The hospital's laboratory work was customarily handled at a very large and very well equipped laboratory just outside the Technical Area across the street, but two blocks down. That arrangement had collapsed on Tuesday evening.

Novali was studying the connections on the autoclaves. He looked up as Pederson came in, and grunted.

There were wooden boards on another table, with charts and notes attached to them. There were more charts on two walls. Pederson looked at the one closest to him. It was marked for Saxl and it contained seven short columns of figures under the heading "Urine Chemistry."

"How are things, Lou?" Pederson asked Novali, still looking at the chart.

Novali shrugged his shoulders.

"Most interesting thing, aside from what you know, is still this white-cell count. It's over twenty-three thousand now, and that's real high. How long can it stay up there?"

"How far will it fall when it falls is the question," Pederson said.

"It's not so rare, but it's not common either," said Novali, in a rather pettish voice. "Emotional factors, apprehension and so forth, could have something to do with it, Charley. But you know there were a couple of cases just the opposite with the Japanese at this stage—and of course several like this. It's never true with dogs. Rabbits, but not dogs."

Pederson nodded his head. He reached out and fingered the photometer.

"Anything else?"

"What do you want, Charley? You want to go over things in general? Nothing's worse, if that's what. He looks good, considering, a lot better than even this noon. Feels pretty good too, he said. He got a good snooze."

"Who's up there?"

"Betsy was half an hour ago. Some of them went over to the Lodge to eat late."

"Nothing happened, did it? I mean, to keep them?"

"No, Charley, they were just around—you know. We're getting together soon as they get back." He sharpened his look at Pederson. "Now you're back," he added.

Pederson glanced along the rows of charts.

"What's with the phosphorus? I don't see anything."

"We're not keeping that any more, Charley."

Pederson studied a chart entitled "Platelets (Hundred Thousands)—Retics (%)." He stared at it carefully for nearly a minute while Lou Novali stared at him.

"Who dropped the phosphorus?" Pederson said then, reaching out to finger the photometer again.

"Berrain said to, I think. Morgenstern told me, but Berrain told him, I think." After a moment, as Pederson said nothing, Novali said again: "It was Berrain. Unreliable, he says. They're using just the serum sodium for neutron measurements."

"I see."

Pederson put one hand to his face and squeezed his eyes. The gesture brought to mind Beale, who had done this so many times during the evening. He started to take his hand away, and then, sighing, brought it back.

"Well, I'll see you later, Lou. I'm going upstairs. Has Louis been asking any hard questions?"

"He was pushing me some about that sternal puncture."

"What about what we told him earlier? Doesn't he believe it any more?"

"Well, what'd we tell him, Charley? A dilute version of what we found, more or less. Sure he believes it, I guess, including the dilution."

"So has anyone told him anything different? What's the pitch?"

"No, no, same things, same exactly. They only get harder to tell."

Pederson nodded. He was wondering what Novali really thought about the situation; Novali hadn't said; like his slides, he was full of information and noncommittal. And yet at the same time Novali didn't seem to be withholding himself, indeed he seemed ready to answer almost anything he might be asked, seemed even to be waiting. Why then don't I ask him? Pederson thought, and words did come to his mind and his tongue tightened as he started to frame them. Then, like a schoolboy on the verge of asking a girl for a kiss, unsure of what the answer would be, embarrassed in advance at his own formulation of the wrong answer, he drew back the words. And, although his expression had not changed, he actually blushed as though he had been found out in something.

"Charley, you ought to get a few hours in the sack. You're tired as hell."

Pederson nodded again, turning away. He left Novali in the cluttered room and went on back along the corridors to the stairway, and up the stairs to the second floor. On the way it struck him that Novali, who knew very well where he had been for the past few hours, had said nothing about it. He had every reason to feel grateful for this, but instead he felt annoyed. Why had Novali so conspicuously skirted this subject? and the other as well—for it was half fixed in Pederson's mind now that Novali should somehow have answered the question that had not been asked. Unquestionably, he thought with a flare of self-dramatiza-

tion, I am being excommunicated. He felt lonely again, as he had this morning; and then angry again; then hopeless—passing in a moment through all the moods of the day.

Before he could resolve these feelings he was approaching the door to Louis's room. He stopped short of it; it was nearly closed but not quite; he could hear Betsy's voice inside; she was reading aloud. He stood there listening to the voice—he could not catch the sense of what she was reading—and suddenly his mind presented him with the recollection of Betsy standing in the conference room a few days ago, saying: "I'll be glad when we get past Tuesday the twenty-first." Well, we didn't do it, did we? he said to himself. The question astonished him and he thrust it away, not knowing what the words signified or why he'd thought them, and in fact it was only a trick of the mind, a setting for the "we" that he was much too stolid to approach directly. He had bristled at the glimpse of Betsy's uniform at the window a few hours before, but the sound of her voice from the room now, reading quietly, was a nice and reassuring thing and seemed to say: "Come in, in here where hope is." Or at least this was the rough sense of the feeling that hovered in him for an instant, even though he didn't put this into words and even though, as he opened the door to the room and stepped inside, he glanced at Betsy quite as indifferently as always. She stopped reading and Louis, turning his head on his pillow, spoke with a kind of self-conscious excitement.

"Who can this be, Betsy? Chance, free will, or necessity? Charley, listen—keep your needles in your pocket—sit down—you've got all my blood anyway—but listen. This is fine stuff. Read that again about the loom, Betsy. 'It was a sultry afternoon—'"

Betsy looked from one to the other, smiled at Louis, looked in the book and found the line, and again took up her reading. Pederson could not see what the book was; it was a thick book and Betsy had it flat on her lap. She was bending forward over it, leaning a little to one side so that the light from the small lamp on the table by her chair would reach the pages. She read rather slowly, deliberately, and her voice reading seemed deeper



and surer than it did when she was talking; it was pleasant to listen to.

"'It was a cloudy, sultry afternoon,'" she read. "'The seamen were lazily lounging about the decks, or vacantly gazing over into the lead-colored waters. Queequeg and I were mildly employed weaving what is called a sword-mat, for an additional lashing to our boat. So still and subdued and yet somehow preluding was all the scene, and such an incantation of revelry lurked in the air, that each silent sailor seemed resolved into his own invisible self.

"'I was the attendant or page of Queequeg, while busy at the mat. As I kept passing and repassing the filling or woof or marline between the long yarns of the warp, using my own hand for the shuttle, and as Queequeg, standing sideways, ever and anon slid his heavy oaken sword between the threads, and idly looking off upon the water, carelessly and unthinkingly drove home every yarn: I say so strange a dreaminess did there then reign all over the ship and all over the sea, only broken by the intermitting dull sound of the sword, that it seemed as if this were the Loom of Time, and I myself were a shuttle mechanically weaving and weaving away at the Fates. There lay the fixed threads of the warp subject to but one single, ever returning, unchanging vibration, and that vibration merely enough to admit of the crosswise interblending of other threads with its own. This warp seemed necessity; and here, thought I, with my own hand I ply my own shuttle and weave my own destiny into these unalterable threads. Meantime, Queequeg's impulsive, indifferent sword, sometimes hitting the woof slantingly, or crookedly, or strongly, or weakly, as the case might be; and by this difference in the concluding blow producing a corresponding contrast in the final aspect of the completed fabric; this savage's sword, thought I, which thus finally shapes and fashions both warp and woof; this easy, indifferent sword must be chance—aye, chance, free will, and necessity—no wise incompatible—all interweavingly working together. The straight warp of necessity, not to be swerved from its ultimate course—its every alternating vibration, indeed, only tending to that; free will still free to ply her shuttle

between given threads; and chance, though restrained in its play within the right lines of necessity, and sideways in its motions directed by free will, though thus prescribed to by both, chance by turns rules either, and has the last featuring blow at events.

"'Thus we were weaving and weaving away when I—'"

Betsy stopped and looked up, and Louis shook his head appreciatively.

"Isn't that wonderful?" he said, and the undercurrent of self-conscious excitement was still in his voice. "If you'd only leave me alone with Betsy and *Moby Dick*, I'd be all right. Blood, always blood. Just leave me enough to listen with. Blood and ice. We've got four hundred pages to go."

"I like it—I haven't read the book—but I'm surprised you find it so wonderful," said Pederson, who wanted to keep the mood alive and who really was surprised as well. "I should think a physicist would think something like that was—I don't know—kid stuff—well, no, but romantic or mystical."

"What physicist?" Louis exclaimed. "Physicists believe a hundred things. The most beautiful emotion we can experience is the mystical, the sower of all true art and science. That's what Einstein believes, or at any rate what he said once. Poor Einstein! He's isolated himself, all the other physicists have parted company with him, and he's said so many beautiful things. Well, of course Mr Melville's Loom is mystical, but it's got the right feel. It's economical, like all good physical theories. It's got an æsthetic quality to it, even as wave mechanics. It's a creation of free imagination, as natural laws must be. 'Chance by turns rules either, and has the last featuring blow—' Profound truth, demonstrated by observation. What's the dose, Charley?"

Pederson had moved to the end of the bed and was looking at the patient's chart hanging there, just under the watch that Betsy had hung. Listening to Louis, looking at the chart, and still resolved a little by Melville into his own invisible self, he did not at once comprehend Louis's question.

"What's what dose?" he asked, his eyes on the temperature reading of an hour or so before, which showed a rise of three

tenths of a degree from the last reading Pederson had seen at four o'clock.

"The dosage of ionizing total-body radiation, with particular reference to the neutrons," said Louis.

Pederson looked up sharply. The expression on Louis's face was a mocking one, but almost merry, too.

"I don't think anyone knows, least of all me," Pederson said. He looked down at the chart again. There was an instruction for him: two bullæ, or large blisters, on the thumb and palm of the left hand had ruptured at about six o'clock; Pederson was to look at them for signs of infection, have the nurse clean the area, etc. He looked up at Louis again.

"Wisla and Dave Thiel are the authorities on that. What do they say?" he asked offhandedly. He signaled to Betsy, who got up from her chair; they both walked around to the trough holding Louis's left hand and arm.

"They lie, naturally. That is, they say nothing, which is a lie. Nobody ever tells a patient anything. You know that, Charley."

Standing on opposite sides of the trough, Pederson and Betsy were slowly removing some of the towels from the mound of ice and towels, and hand, within the trough.

"Well, they're lying to me then, too," Pederson said, not looking up. "How's the  $\dot{\gamma}$  in in here, Louis? Still quiet?"

"All quiet."

For several moments none of the three in the room said anything. Betsy switched on a light, a standing photographer's light of some size which had been brought in earlier and stood in the corner near Louis's bed. She adjusted it to keep the light from Louis's eyes, and the edge of the yellow circle of its glow cut across the middle of the bed. Then she went back to helping Pederson, taking her stand again on the opposite side of the trough from him, and for a moment more their arms reached out across the trough, back and forth in alternation, removing the towels which lay crisscrossed in a dozen layers. The ice moving in the melted ice water below made small and regular sounds as the trough vibrated slightly from these movements;

and there was no other sound in the room, although through the door, from the corridors, or from other rooms, came occasional sounds of muted talk.

The hand, when it was revealed, was tightly swollen and intensely cyanotic; the swelling extended up along the arm, which had a waxy appearance; the edges of the ruptured blisters hung dead, and a yellow fluid had congealed around them.

Louis glanced down at the trough, and then rolled his head away toward the window at the right side of the bed.

"You know what you are, Dr C. Pederson?" he said, and although there was very little expression of any kind on his face now, his voice still had the mocking quality. "You are what us natural philosophers call the doctrinaire or single-minded layman—determined, that is, that there's a mould from which physicists are poured, all from the same, and that the pouring deposits us in the midst of people, to serve some inscrutable function, doubtless malevolent, but that we're not to be confused with people. If I quote Schrodinger or de Broglie, particularly with equations, the doctrinaire layman is impressed and content that I am content. But if I quote Melville he gets worried. Are you all right? he says. Maybe you need a little vacation? he says. Or else he goes off thinking I've been duping him and never should have been a physicist to begin with."

Pederson and Betsy, intent on the badly injured hand, were nonetheless laughing.

"And yet hath not a physicist eyes? Hath not a physicist senses and passions? Fed the same, hurt the same, healed by the same means as a person is? If you poison us, do we not die?"

"Well, not to put too fine a point on it," he went on, turning his head back toward them and arching his neck, then looking down the length of his body under the sheets. "Of course, one shouldn't have his eye on Queequeg, looking out over the waters so indifferently, when one is doing certain things. The sword, yes, under whatever name, but Queequeg's too distracting. He won't go away, though. You rule him out and he edges in again, careless as ever. You can look the other way, but at the peril of missing the point of what you're doing. The only thing to do with

Queequeg is to depersonalize him, at least so he quits looking out to sea—one reason he's so distracting. Either that or kick him overboard. Get the job done with push-buttons and automations that don't look out to sea.

"What nonsense you make me talk. This is unworthy of a well man, let alone a sick one. Betsy, throw this boor out. He's not doing anything anyway."

Louis could feel nothing in his left hand; nor had he looked at it since that first glance. Betsy shushed him now—he had lost his audience—and he lay silent, his head again turned towards the window that looked out from the front of the hospital.

But they finished very quickly. The towels went back on again and all was as before. Charley Pederson reminded him that it was getting to be a late hour and sleep was important. Louis said he'd slept all afternoon. One of the night nurses came in; in the conspiratorial manner of nurses she whispered to Dr Pederson that some of the doctors were waiting for him in the conference room and thought Mr Saxl should get his rest as soon as possible. Louis, overhearing, said he was tired of resting. Betsy looked at him covertly and anxiously, for it was beginning to seem to her that his voice had all of a sudden taken on a small degree of the invalid's petulance, which would mean that he was more tired than he knew. A. Louis, petulant at the prospect of no more reading, pondered whether he should press invalid's privileges in the face of the evident fact that Betsy was exhausted. He gazed at the night nurse, who had a high and squeaky voice. He watched calculatingly as Pederson stepped outside the door and motioned to Betsy to follow him. But they disappeared from sight and no sound of voices came back to him, and so he watched gloomily as the night nurse, saying things to which he did not listen, made small changes here and there, straightened the table by which Betsy had been sitting, and closed *Moby Dick*.

Poor Queequeg, said Louis to himself.

In the corridor Pederson took the letter from his pocket and handed it to Betsy.

"I think it's from the girl who was visiting here last week," he said.

Betsy turned the letter over in her hand.

"Theresa Savidge," she read. "I don't know her name. I saw them on the terrace one day. Is she—?"

"Don't ask me what the situation is. I don't know anything about his private life. I don't know what to do about the letter either. He might be dying for it, and a'so it might upset him."

Betsy looked from the letter to Pederson and back again. And Pederson stood indecisively, thinking how late it was and wondering what had suddenly impelled him to give the letter to Betsy, but thinking also how almost cosy the scene in Louis's room had been when he had walked in a few minutes before, and how pleasant the sound of Betsy's voice.

"You'd have to read it to him," he said finally. "I don't know. Use your own judgment." But what he meant, he guessed, as he walked on down the corridor, was that she should use her intuition, her woman's intuition.

### 3

A few minutes after this the night nurse came out, with the patient's chart in her hand. Inside the room, seated again in the chair in the corner by the table, her head inclined slightly so that the light from the little lamp would catch the writing, Betsy began to read.

"It says 'Monday night' at the top."

"'Dearest darling—'" she looked up at Louis and smiled at him—" 'Dearest darling—it is nearly thirty minutes since the train left Lamy and you standing there in the night beginning. A man with pointed ears and a very large cigar—he does not go together—has finished his letter and yielded me his place, and I think I shall stay here across a third of the continent, alternately weeping and writing to you. Writing to thee. Do you remember the man in *Pity the Tyrant*—the book by which we met (and do you remember that?)—who wondered how he could make love

any more without saying thou, after his year in Peru among the gentle Spanish speakers, where he had learned to love to say thou? Thou, thou, thou, thou, thou—a thousand thous, for thy face, thy hands, thine all.

"I stopped to weep a little, because the train is going so fast and because you go together so beautifully—and also, dear Louis (I shall make no more love now), to wonder how and whether to lay before you the beginning of a worry and a fear. Bide with me, my darling. Let me say it, or try to, even though you find it foolish before I am half begun.

"It is about—no, let me begin another way. David told me of the letter you got from your friend at the University saying he heard you aren't going to get the teaching job there because you're Jewish. This is a sad and contemptible thing, and I know the hurt it must have been. But it is also a little thing, mean little, and must not be allowed to be a big thing. You are not a self-pitier and will not let the wound lay open. But you might just decide to stay where you are, to expose yourself to no more hurts. You might involve yourself, on this trip to Bikini, in more months of this work. You might do this because you are very much a human being, and a very male human being. Male human beings do things like this out of what they consider to be intense realism. But the point is that it would be making a big thing out of a little one to stay on at Los Alamos, and that is not at all, at all, at all realistic."

Betsy stopped reading, although she did not lift her eyes from the letter; she had decided many lines back that her judgment—she guessed it had been her intuition—had played her false; this was not the sort of letter for her to be reading to a very sick man who was facing the night not willing yet to sleep; indeed, it was a letter she should not be reading at all. But now she did not know what to do. Should she simply be firm and leave him with the lights out? Could she? Should she give him more sedatives? Would he take them?

But his eyes had shone like a boy's when she had come in and told him that she had the letter—for she had decided at once that she could not conceal the fact of it from him. And he had

said "Please, oh yes, please," when she had asked him, moving just one step from the shining eyes, if he wanted her to read it to him.

She looked up at him now; his eyes were holding her intently; he said nothing to her, but it was as before, and so she resumed her reading.

" 'I do not like your Los Alamos with its gates and guards and those secret buildings. The evening we spent with David at the Ulanovs' house, and you and the others talked about the early war days, was wonderful with the excitement of what you talked about, and some of it—about the water and the laundry, the little bickerings, the fearful forays into Santa Fe, and the things like that—was wonderfully funny, too. Los Alamos may have been—must have been—a fulfilling place to be in those days. And for all those tight and ugly buildings, and the gates and guards, it cannot defeat the land in which it is. At night—the night we went out walking to the edge of the mesa—on the non-secret side—it was then a part of that lovely land and seemed a meadow of life itself we walked in. Until we ran into the fence and the soldier turned his light on us! Do you still have the spray of columbine we picked for your room? You shouldn't keep it too long—the delicate flowers die hardest—and yet I don't want you to throw it out either. Oh, dear.

" 'But any place you are would have its wonder. I can't tell what I think, of it as separate from you, until I'm not there. Then I can tell by how I feel about you being there without me. I have never spent a more physically unhappy time than during that terrible wait for the train at the station in New York the day the war began. But if I had had only to say a word to keep you, I would not have said it. For all the pain of parting, it was clear—in soft focus, but clear enough—that you knew what you were doing, even though you hadn't said, and needed to go with a need beyond me. I hadn't even been in Chicago then, or in Georgetown—the garden city, the city of your birth, the Eden of the prairies—and still I felt that it was right, at least not wrong, for you to be there then.

" 'But the moment we left Los Alamos, through that blasted



gate on the way down to Lamy to put me on this train, I knew that there was not where you should be. Something is very wrong with it. It seems a place for people to deny themselves, like a monastery or a nunnery, but in those places at least the object of denial is praised and exalted and lived for. I know you are proud of what you did there, for the achievement of it, for the doing of it fast and well and first against the threats of others doing it. Your letters from Los Alamos during the war, which said nothing of what you were doing, still spoke with such a feeling—and so were you all speaking, looking backwards, at the Ulanovs' that evening. But wasn't it a strange thing that there was no looking forward, except to get away, to work of your own? You all talked so. And nothing said of the present that was not touched by remorse and guilt and worry?

"Louis, my own true love, for what are you denying yourself in that place? To whom or what are devotions made in barred buildings when no one is attacking? Except in the face of threats from the forces of death themselves, are there real reasons for a scientist, above all others, to lock himself away or let himself be locked away? What is the reason for Los Alamos now, nine months after the war?

"It's an hour later, and the train is going faster than ever. It's very dark outside. I've been thinking that probably I'm naïve and foolish (certainly fond) and am treading where I don't know enough to tread. All I know about the workings of a scientist is what I know about you, and what I know about science I have learned from you. One thing I remember best is a thing you said—in bed it was—in your room in Mr Biscanti's house of beloved memories. That was just before the war began—it was the night before that terrible wait at the station—and that night I was more miserable than you knew because you were going away, and I had not yet understood what drove you, and kept trying to find out. Do you remember? I asked you to tell me, simply once, what your science was to you. Do you remember this? I asked you if it was challenges, and you said yes, certainly there were challenges. And I asked if it was fun, like puzzles. And you said yes, if you liked puzzles here were certainly a lot of

big ones. Thinking of just such things as this letter from your friend at the University, I asked you if scientific work meant any kind of a haven or hideaway for you. You supposed it meant that, too. And I forget what else we said (except that you weren't helping me much) until finally you told me this—if you think of life as a great countryside, as the world untouched, you said, and ask science to tell you all about it, science answers by giving you a few roads through it. The roads don't go through all the countryside at all, but they do take you to magnificent heights not otherwise reachable, and span great areas not otherwise crossable. And it is along these roads—the great and ordered constructions of science, you called them—that the minds of men everywhere can move and touch. It meant something like that to you, you said. And that helped me very much, for the rest of the night, for the next day at the station, and for the years since.

"Does anyone talk that way at Los Alamos? I suppose not. You were twenty-four then (and also you were pale and wan from a last night's love, and there was me to pester you). Maybe you don't believe anything like that any more. Thoughts like that must have been badly hurt by the way the bombs were used in Japan. But you joined with a lot of other scientists to sign a petition to the President urging that they not be used that way. Why did you do that, two months before the bombs were dropped—and help to make them now?

"Oh, damn it, damn it, there's so much I want to say to you, didn't know how to say to you while I was with you, and I'm saying it all wrong now. Believe me, oh believe me, it is all for love. I am just so afraid—I think it is only this—that something might happen now to keep us apart longer. Like that letter about that contemptible thing, or your own thoughts and worries if they should lead you on to bitterness or frustration. There is not a denial—not a truly felt one—but an obsession in the air of your armoured Los Alamos now—not an excitement but a nervousness—not anything moving the minds of men but something, maybe in themselves, moving against them. And I want you away from it. I want you to pay attention. You hear?

"How long have I been calling you? Ever since the day the war began—in a hundred letters, some of which I take no pride in, for they were selfish and cruel with wanting you—in nine times together (in the last seven years) torn from the pattern of your life and made into the pattern of mine. Now you go to your Bikini and come back, and then there will be an end to separation and to calling.

"But, sir, I mean to say I had a lovely time as your guest at Los Alamos. You were a wonderful host and—thinking of certain timeless moments, such as an afternoon of flowers and flowerings under the tolerant face of St Peter—made your guest's every wish your own. May I now remind you that in a month you are to repay this visit, this time for life, at a place to be selected, but anywhere in the countryside where roads need building?

"Oh, Louis, Louis, Louis—I miss you so very much—the train is going so fast the wrong way—it's so dark outside, and you back there in it—do hurry—do, do hurry. I love you. Theresa."

Betsy read all of this through. She stopped several times in desperation, but her despair showed her no way out except to read on. She dared not look up, and at the end her voice was so low that it was hardly more than a vibration in the quiet room.

#### 4

Poor Betsy, thought Louis; poor Theresa, poor Theresa. A wave of pity—for Theresa, for Betsy, and for himse'f, about equally for each—rolled over him, and for a second or two he almost shook from the force of it. But it rolled off and away, taking on such a physical property in his mind's eye that it seemed to him he could see it recede. And then it was not the wave of pity but himself that seemed to have receded, to some point, not too remote, not more than a few levels of awareness away, from which Theresa and Theresa's letter and all it encompassed of himself and her, together with Betsy's tortured reading of it and

the actual person of himself, could all be seen as points in a pattern, somewhere below. He had had sensations like this sometimes when falling asleep, feelings of being quite disembodied and able to observe his curled-up self from a point which he recalled as being approximately at the ceiling. The position to which he had moved now had no such specificity; it was only outside himself, out of reach of the letter and its reading. Even as he thought this it seemed to him that he could see among the points in the pattern one that he had not noticed before, a pale point which was a child's voice, but his own, saying: "Oh, if only, if only, if only—" But up here, or out there, wherever it was he was, he could only nod, not without interest, and say in answer to the voice or with reference to the letter (this was not clear): "I do not understand you any longer . . . I can barely hear you . . . you—what?"

Now not more than ten or fifteen minutes could have elapsed since Betsy had come into the room and, standing at the foot of the bed with her hands behind her back, had told him that she had a surprise for him if he would promise to be good and go to sleep right afterward. He could remember perfectly well the joy he had felt when she had held the letter forth, and the eagerness with which he had listened as she began to read. These feelings, too, were now points in the pattern, which seemed to have room within its design for everything that came into his mind. But these points were not fixed; they shimmered and were not quite real; he watched them—not thinking about them, only watching them—as Betsy got up from her chair and moved around and about the bed, saying various words in a soft voice, and then finally went out, leaving him alone in the room.

After a while the face of the watch on the end of the bed penetrated his consciousness. He had the feeling that he had been looking at it for some time without really noticing it. But before that he must have been asleep; the watch read a little after twelve thirty, and he remembered that he had looked at it when Pederson had left and that the time then had been a little after ten thirty. He found this quite unbelievable; he had no feeling of having been asleep and he could swear that the sound of Betsy's

voice reading had not ended more than a few minutes ago. He was not at all disposed to argue with the testimony of the watch, but he tested it by listening carefully for a few moments, and he could hear nothing except threshold sounds without identity and the distant deep and throbbing sound of generators. The quality of the air was the quality of after-midnight.

Much as an old man might sit watching a happy, thoughtless, playing child, Louis considered the letter again. The sense of remoteness that he had had about it before he still had, but in a different, less static way; he was not one place and the letter another; the sensation that he had moved outside himself had gone, and by the same token he no longer saw or felt the presence of a pattern into which his thoughts fitted with neat unreality. As the old man might become absorbed, even as the child, in the movements of her game, although without any sense of participation in it, so Louis's mind turned around all the details of that afternoon near St Peter's Dome—which had indeed been full of flowerings, all of which he could remember and none of which seemed now to have touched him. He remembered very well the book by which they had met, and the meeting, and, although this had happened years ago, eight years ago, it was alike as vivid and as distant in his mind as the afternoon by St Peter's Dome five days ago. It puzzled him that Theresa said they had been only nine times together in seven years, and for quite a long time he thought back over the years remembering each occasion—not mechanically, for he stayed longer with some of them than with others, and even smiled a little or closed and crinkled his eyes thinking of them—but still his objective was to find out if he could remember only nine, for he would have sworn there had been more; in the end he decided she was right.

What she said about the letter from his friend at the university set up rather more complicated feelings within him. This letter, well-intentioned, full of contempt for the workings of the university's quota system, full of the writer's declarations that he would speak to this one and that one, so that perhaps someday—and meantime—this letter had arrived on the last day of Theresa's visit, and in the afternoon, only a few hours before he

drove her to Lamy to put her on the train. He should not have mentioned it to David, although he could not have avoided that since they had been planning to work together at the university. Nevertheless he could have waited, it had been bad to mention it just then. Still, David should not have said anything about it; David had been more upset than he had been himself; but then perhaps he had been more upset than he had realized, perhaps Theresa had noticed something and had worked it out of David. But this was all no matter now. Undeniably the meaning of the letter had been a hurt. Moreover, he had lost his sense for the smell and sound of that kind of thing during the years of the project. Among the people he worked and lived with there was none of it, none that he had experienced or had heard of, at all events.

Like many Jews, Louis had long ago fashioned within himself a kind of emotional chute down which such hurts could go, entering the eye or ear but bypassing the channels of consciousness. He had learned, long ago, that a Jew could not react to hurts the way a non-Jew could, since prejudice imposed so many that too often one reaction would not be ended before another would have to begin. The fact was that his emotional chute had grown rusty with disuse and had failed to admit the hurt of four days ago. It was really no matter now, he thought again.

Although it was, of course; it always was. He stared straight down along the bed, beyond the watch, to the windowsill where the flower was. And the sight of it at just this moment brought up again, from the depths of his mind, his half-dream of the early morning, when he had lived again the searing few minutes of so long ago on the high-school lawn. But he had been half asleep then; he was wholly awake now, and he was not at all of a mood to forage among such little crises of his youth. He wondered, idly, whether his subconscious thought it had achieved a triumph by serving up that incident; he could without difficulty think of two dozen other such, and he had the uneasy feeling that if he were to lean back, mentally, and let his subconscious take over, it would self-righteously serve up all of these and two dozen more, drawing heavy lines under each one. The trouble

with a subconscious was that it drew so heavily on the values and judgments of childhood days; and he had occasionally thought of this vague and speculative realm of the mind as a sort of spoiled child, which roused out of fatted torpors from time to time to point a finger, stamp a foot, and say primly: "But the king has no clothes on"; concerning which it was sometimes right, often wrong, and always sure.

Moreover, it personalized everything, Louis thought testily; and, on top of that, debased half of what it pointed at, pretending to the candour of innocence, which indeed it sometimes had, but more often only exploiting the patness of its primitive judgments. Well, so much for that, he thought. He felt an itching at one corner of his mouth and turned his head to rub the itch away against his shoulder. But it had been so natural to raise an arm and do this with his hand that involuntarily the muscles of his right arm contracted slightly and for a fleeting moment he felt a pure and woeful frustration at being denied this simple measure of relief. He tensed the muscles of both arms, but felt nothing much beyond his shoulders, and did not even look to see whether they had moved. His head was still turned and he continued to move his face against his shoulder, although the itching had stopped. The movement continued for a while, slowly, half forgotten.

But he would not have stayed, he said to himself. He would not have stayed at all for such a reason, or for any reason, and Theresa, he thought, should have known that; she should have known it in her blood and bones and with her flesh, for the certainty of their plan had flowed from his to hers. The day of that certainty had been Saturday, and it had been rich with the details of their planning. How their minds had worked! How the sky had glowed!

"Say it," she had said.

"I love you."

"Say it again."

"I love you."

"And we'll be married in a month."

"In a month."

"You name the first child."

He rolled his head back now and stared up at the ceiling. Theresa, he said to the ceiling, I would not have hurt our plan for a reason like that.

She took shape within his eyes. He saw her as she must have sat at the writing-desk of the train, her head bent forward, her hair covering the sides of her face, her body tight with the intensity that it brought to tasks. Her task then had been worrying, and her letter an attempt to make of the worry something that would shield and support himself and her and them. "How long have I been calling you? Ever since the day the war began. . . . There will be an end to separation and calling."

Yes.

Now like the old man who, watching the remote child, wants at some point to reach out and touch her, only touch her, for a reason that he could not name but feels throughout himself, Louis wanted suddenly to reach out before him, to hold his arm out as he would to touch Theresa if she had been there. The visualization that he had of her, so intent, so worried, so full of love and promises, was almost more than he could bear, although even so he felt the remoteness. This writing figure which so moved him also puzzled him. It was Theresa, to every stray hair and to every thought that he could almost see within the bent head, but she was also something more or less or different. He lay perfectly still, deliberately still, as though waiting or watching for the explanation to come to him. It did not come, and he tried to prod it with the conscious conjecture that Theresa stood for him now as all women and that this symbolism made for the puzzlement and the present remoteness alike. A part of his mind told him that this was an artificial construction, and explained nothing; but another part of his mind took hold of it, and abruptly, with a sense of real panic, he had the most horrible feeling that Theresa, as he still could see her, was about to turn to him and would not know him when she did; would turn to say the very things she had been writing, to offer him the wholeness of her heart, to speak, to touch, and would not know him; or even, like the little playing girl turning to let her eyes pass over



the old man, would see nothing, nothing that held any possible interest for her.

But the figure that he held within his eyes did not turn to confront him; she continued to sit as he had visualized her, and the panic died; if she should turn, he told himself, to search him with her eyes, why, the expression of her eyes and the movements of her lips would be—would be— And then he didn't know, he couldn't think. Would be— Now he wanted her to turn, and closed and opened his eyes two or three times rapidly, trying to make a picture of her looking at him. But he could not get her face; it eluded him, it wasn't there or was blurred or blank. And each time the figure that he made shifted slowly back into the position that he had first given it, sitting at the train desk, writing; as though the importance of life were there, for her. But what she was writing seemed now also to have slipped from his mind, or from importance in his mind. What she was writing he remembered very well, and yet, he reflected, it was all about such a number of things, such a variety of energetic thoughts and prospects—all so busy, so distracting really, that was the word for it—or perhaps just too full of the details and involvements of life, which were not really the important things, or the demands of life. Perhaps just that, perhaps just life itself. For several minutes he thought about the letter, turning the parts of it around in his mind, and the more he did so the less it seemed to mean to him. After a while he simply stopped thinking about it. Without sorrow, without alarm, but with a feeling that the remoteness which had taken hold of him was feeding on and sapping all his senses, he grew aware at last that in truth it was he who would not know Theresa, if she should turn to him; or, worse, that he would have to meet with indifference the expression of her eyes and the movements of her mouth. As the old man, called on to feel more than he can and to understand what he has forgotten, finally exhausts his capacity to watch the playing child and turns away from her, so Louis withdrew from his contemplation of the picture of Theresa he had made, and the picture faded out of his eyes. At the back of his head there was a chattering, faint and indecipherable. But towards that, too, he felt

indifferent; and towards the oppression of the ice which weighed him down on both sides and across the middle; and towards all the convolutions of his recent thinking.

A few minutes passed in which he thought nothing at all. He heard sounds at the door of his room; but he had turned his head towards the window again and so could not look; whoever it was, he did not want to see him—or her, it was probably the night nurse. He closed his eyes, although they could not be seen from the door, to make himself seem sound asleep. Something rustled, something clicked. Then he heard stealthy footsteps going away. He counted them all the way to the stair leading to the first floor. She is going down to get some coffee, he thought. And instantly, without the preparation of a thought, he decided that he would get up.

Precisely why this notion seized him, he knew not. His violation of the order of the room when he had withdrawn his hand from the trough early in the morning might have given him a taste for more; or it was the immediacy of the act, its lack of links to past or future, that caught him; or it was even a manoeuvre to combat the indifference. It was or it wasn't; his mind glanced off these and some other speculations, but it organized itself before the problem of getting out of bed. He listened again, and heard nothing, except that from the outside, through the partly open window to his right, from somebody's house somewhere down the street, he heard a baby's crying. And then, without any great effort, he tensed the muscles of his abdomen and drew himself up slowly; the bags and pads of ice on his abdomen slid down. He watched the mound of towels over his left hand heave and disintegrate as he worked to withdraw his arms from the troughs. He withdrew them, and then reached his legs, one after the other, over the side of the bed, and stood, his hands hanging stiffly at his sides. His legs moving stiffly, he took two steps to the window, and looked out.

From this window he could see, to the left, the farthest reach of the yellow glow from the light, itself invisible, that stood by the pond beyond the end of the hospital; and across the street, from rooms within the Lodge, fingers of light stretching out

across the empty terrace and cutting faintly, here and there, into the otherwise black space of the big open lawn. He heard again the baby's cry. Men fear death as children fear the dark, he thought. But the dark beyond the window looked soft and not unfriendly; the cold of the night air he didn't notice; and the small sounds of the trees were the sounds that he and Theresa had walked among only a few nights ago. That thought came easily to mind, and with it another picture of Theresa, this time with himself. She was standing on the farthest edge of the big open lawn, out where the dark was untouched now; she had run out ahead of him, the flame-coloured skirt that she had put on for him swirling and her long hair flying, and he was walking towards her. She beckoned, urging him on with her arm; and then she gathered up one edge of the flame-coloured skirt and held it out, bowed, looking at him, whirled once, and looked again, laughing and gay. In a moment this picture was gone, too, yet not wholly; it only receded, leaving a warmth, and the warmth seemed to spread and swell and cast a light on other thoughts and pictures in his mind, which stirred as from a stupor.

His mind did not fix on any of these; they rose and fell away. But the sense of remoteness did not sustain itself, either; it seemed, by the act of his getting up—and maybe just because that had been an act and not a thought—to have been routed from the sprawling, smothering hold it had taken and to have been compressed into a cold core of something. Against the unyieldingness of this, as it seemed, his thoughts now rose to hit and, falling back, to hit again. The chattering at the back of his head kept on, incessantly, too loud to be ignored, but not loud enough to do more than register on his consciousness. He was warm and cold, not bodily, not with any reference to his frozen hands—he ignored them, he had not once looked down at them—but entirely as a matter of the climate of his mind. He found himself thinking that if he were to concentrate on this last picture of Theresa he could bring it forth again, or that if he were to concentrate on the chattering he might even be able to distinguish some of the elements of that and find out what it was all about. He felt that he had the power to do this, but he did not feel—

it was an odd thought—that he should *commit* his revived interest to that extent. It was plain to him, beyond the need of analysis, that within the cold core something was crystallizing which sooner or later would require all of his attention, and which, just because he recognized this, could be left for the time being to its own devices and would leave him, so to speak, to his.

So he stood there, looking out into the night. He thought of the flame-coloured skirt again, and of the way it swirled. But then, hardly noticing the transition, he was wondering how the quota system operated at the university—one perhaps for each branch of science, with perhaps two for chemistry? From some forgotten room in the storehouse of his mind came the recollection that in England, up to the latter part of the nineteenth century, no one could get a degree unless he subscribed to the Thirty-Nine Articles of the Anglican Church. He could not recall what had led to the end of that requirement and felt somewhat ashamed that he should remember the fact of it without being able to remember how it had ceased to be a fact. The quota system had never touched him before; it never would, he thought.

Was science a haven to him, as Theresa had once asked? Why, yes, the answer now, he supposed, was that once it had been, of a sort, always bearing in mind that the fire of Miss Oliver had preceded the ice of the high-school lawn. Poor Miss Oliver! How could he explain, even to himself, what she had meant to him? But fire was the word for her—the reason perhaps that he thought of her, as he had more than once over the years, in the setting of Lavoisier's classic inquiry. But what nonsense! He thought of her thus because she had said some very beautiful and true things about it and because it was one of the great experiments. Some of the great experiments she had not made very clear; it had taken him years to straighten out some of her misinformation; but she had never once failed to point out greatness where greatness had been and she had never neglected to let them know—to make them *feel* would be putting it more accurately—how frequently these greatneses were linked together, from century to century, from nation to nation, from man to man. He had had a dozen other teachers who knew a hundred

times more, but never one so fired with wanting others to know.

Fermi, surely one of the greats, was going back to Chicago determined to teach physics to the freshmen himself. The earlier it is taught well, he had said with no false modesty, the more scientists there will be. I am sure he would understand, thought Louis, if I told him that Miss Oliver would have approved, although she would not have been as impressed as I am.

He shuddered slightly, from the cold or from some random current in his mind. If I have not done much good, I trust that I have done less harm, he thought suddenly. Who had said that? Hadn't Pickwick? On his deathbed? Oh, Miss Oliver, I wish I could say it! We will talk about it later, he said to himself. His thoughts of Miss Oliver had been warm thoughts; now he was cold, and all in a minute, really no more than a minute or two. He listened. The baby was crying, but there was no sound from the hall, except a loud snoring which he judged to be from Walter Haeber's room. I'm sorry I got you into this, Walter, he said, almost automatically, for he had said it several times before. The four who had been released from the hospital that afternoon had stopped in to see him, and he had said it to them, too. He felt like saying it to Charley Pederson every few minutes, and to Betsy, too.

Betsy's remark of the morning came into his head. "This is the crossroads of the town—the roads don't cross here, but the people do."

"She was right, all right," he said to himself. "That's Wisla out there. I didn't see him come, although it's not surprising. He used to walk around here at all hours, like a brooding majesty. He looks like Queequeg now, come to feature an event."

## 5

Wisla was standing across the street, a little way back from it. He had apparently emerged from the gloom of the big lawn, on the edge of which he still was; a street light in front of the centre

of the hospital, a hundred feet or so to the right, illuminated the front of him. He was wearing a little helmet-like cloth cap, he had a heavy scarf round his neck, and he was carrying a piece of a broken tree branch, which at this moment he was idly stabbing here and there at the ground.

Louis continued to look out, smiling a little. Once, two years or so ago, in the middle of the war and during one of the innumerable crises of the atomic project, he had been out walking through the dark himself (which crisis? he was thinking, too; when the material was beginning to arrive in quantity from Oak Ridge and Hanford and we were refining all the measurements of neutron constants given something more than theory to work with? he wasn't sure and it didn't matter)—he had been walking home about two or three in the morning and had recognized Wisla strolling along up ahead of him. He had stolen up quietly behind and when he got so close he could touch him he discovered that Wisla was singing softly to himself, and so he had listened:

*"She got so damned nice  
And so goddammed high-priced  
She'd only go out with J— C—"*

"And occasionally John Jacob Astor," Louis had sung out.

Well, in general, it was a difficult thing to catch Wisla off guard; but this had, to some extent. Wisla had then looked at him severely and said that, as one who did not believe in the divinity of Christ, he could not appreciate the limerick. And he had looked at Wisla and said that, as a foreigner, he could not possibly comprehend the significance of John Jacob Astor.

"Fulfilling and wonderfully funny," he quoted from Theresa's letter. "Well, I don't know, although some things were, I guess they were. They aren't now, are they? Are you a frightened man, Ed? Urey says he's a frightened man, and I know some who don't say it but they are, too. My girl's a frightened girl—much more frightened now than she was the day the war began—we had a terrible wait at the station and I have seen her only nine times in seven years. That day of the wait—you do appear most opportunely! It was from seeing you that I went to see her, wasn't

it? Yes—yes, that's right. An omen! You featured the event that got me into this and here you've come to see me out! Queequeg, to be sure!"

Wisla was looking directly up at the window now. Louis was quite sure that he could not be seen through the blinds, although he felt self-conscious all the same standing straight in the line of Wisla's gaze. He felt, moreover, odd at being here by the window at all, for he still could not have said why he had decided to do such a foolish thing as he had done in getting up, he had not worked it out in his head, but then he hadn't tried to.

"You're a stubborn man, certainly that's a fact," he went on. "Although the point about a stubborn man is what's he stubborn about. I can't imagine how you get along with the politicians, or they with you is what I mean. 'Where's this fellow's art of compromise?' they must say. And then of course you never met a payroll. Scientists are fashionable these days, that helps, and no offense. But they weren't six or seven years ago. Stubborn, yes. About fear—certainly it was fear then, of one kind, but it's fear now, of another. Or are the fears the same? Fear then for the fate of the world because the Germans might make a bomb, and fear now for the fate of the world because we did. You were a frightened man that day the war began—I saw it, although I felt more than I saw—and you must be frightened now, you must be frightened now."

The baby's cry stopped abruptly, in mid-flight; Louis smiled slightly, for he could almost see the breast or the bottle being taken; and he smiled also because it occurred to him that most of the parents he knew would disapprove of that as non-progressive, reactionary, bad for the baby, and moreover as one or two of them might concede, a plain damned nuisance. Wisla had turned his head to look in the direction of the stopped cry; but unaccountably he was still standing in the same spot, still stabbing his stick around, looking very much like a blind man rapping his cane for attention at a street crossing.

And now that the baby cried no longer, Louis could hear, from far across the lawn, very faint but clear enough here at the window, a familiar music. It came, he supposed, from the gramo-

phone of the Ulanovs, which could be counted on to be going at this hour; the Jersilds, whose house was in the same direction, a little farther off, might also be making the music, but their taste ran heavily to jazz, and this was Beethoven. It was interesting, he thought, how you could tell Beethoven at once, just from a bar or two.

It was evident that Wisla was hearing this also. He stopped stabbing his stick and stood perfectly still, his head turned in the direction of the music. Then, just at this moment, the music stopped, not in completion but as though gathering itself for a fuller reach; and it suddenly dawned on Louis that Wisla had been hearing this right along and his apparently aimless stabbing had been a rough kind of keeping time, a private conducting which he had stopped for the voices; now they soared across the lawn, still faint but clearer and more penetrating in their higher pitch, carrying the Ninth Symphony out beyond the reach of instruments.

He could not hear this without catching his breath a little, and he caught his breath, although possibly a little from the night's chill, too.

"A crossroads, yes—the crossroads is here, all right, just here in all the world, but that's only to say that where these bombs are made, there's the world's crossroads, and here now is the only place they're made in all the world—in a few square miles between the desert and the mountains, with a baby crying and the Ninth Symphony. Theresa says she's frightened for me, but she's got the real fear, too. The gates and guards, that blasted gate, and the secret buildings—a place for people to deny themselves, making devotions to what or whom? Tell her, Edward, can you tell her? Can you tell me?"

But Wisla was walking away at last, back into the gloom of the big, empty lawn.

The truth is, Louis thought, there's no one of us can tell another any more. We've used up all our ingenuity, all our considerable capacities for rationalization, all the good explanations, and all we've got left is the bad ones—the ones nobody wants to give, or turns away from, or mumbles. A place for denial, with



guards. She's wrong about the buildings, though; they aren't ugly; it's a pretty place or there's beauty in it, along with what's ugly, and the ugliest parts are not the buildings, which can be explained.

Edward, he said to the retreating figure, all but lost now in the dark, do you remember that blind girl in Albuquerque, who noticed a brightening in her room from the flash of the bomb at Alamogordo, more than a hundred miles away from her? "What was that?" she asked. Ed, God damn it, Ed, don't go away! What *was* that? But there's a brightness now in all the rooms, he whispered. And then he half laughed, from bitterness and self-consciousness alike. That's all I meant this afternoon, he said to the space where Wisla's figure had been.

Wisla had been in for a visit early in the afternoon, for half an hour or so before the drip injection had started. Their talk had divided about equally between the accident and Wisla's adventures in Washington. Concerning the accident, Wisla announced that, inasmuch as he had never done Louis's experiment or even seen it, he knew nothing whatever about it and could be of no help on the subject. Having said that, he had then asked Louis forty or fifty questions bearing on various details of the experiment; and had excoriated it, as an idiotic arrangement, and the Army, for letting it remain so, and Louis, for performing it, in approximately even measure.

Wisla, of course, knew a great deal about the experiment, although it was true that he had never actually witnessed it. All of the scientists at Los Alamos knew about it at least generally. It was one of the crucial experiments by which the great scientific triumph of a self-sustaining nuclear chain reaction had been channelled into the great military triumph of the fission bomb. The assembly used in this experiment was, in effect, a crude sort of bomb, although it also had come to have its uses in the calculation of neutron behaviour for some peaceful applications of the endless energy. It was not encased and hence could not explode; manoeuvred to a certain point, it gave measurements of amounts

and configurations of fissionable material which would produce a chain reaction, and this was the experiment's function; beyond that point, it gave the chain reaction itself, in a burst of uncontrolled radioactivity. The trick and the trickiness of the experiment lay in the inexorable fact that the fulfillment of its function was separated barely perceptibly from its breakdown into the sudden burst of radioactivity.

How does one assess the deep danger, so delicately realized, of an experiment such as this? In a sense, it might be said to have had unusual elements of safety. Nothing went on in the course of it which was not the direct result of actions controlled by one person; and all of the results were foreseeable as to kind and even roughly predictable as to degree. It is dangerous to put your head in a lion's mouth because the lion, on his own initiative, might close his mouth; dangerous to do a thousand things which depend for their safety on a moving part which might break, on a collaborator who might miss a cue, on one variable or another not under direct control. It was dangerous enough just to be in Hiroshima on the sixth of August, 1945, but no one there had been given any warning of what was going to happen and so didn't know that it was dangerous, which made it doubly so. Louis's experiment had involved none of these dangers; indeed, it had involved but one: the danger of a slip, a barely perceptible slip.

"As you know," Louis had said to Wisla in answer to one of his excoriations, "automatic controls and any shielding worth the name would have made it more cumbersome. It was a wartime setup—jerry-built and single-minded, like the buildings. There're quite a few of them around."

"None so dangerous."

"Maybe not. But think how well it worked most the time. So fast. So simple."

"Indeed," said Wisla, scowling at the tone of Louis's voice. "I am not certain the controls would make it so cumbersome. If—"

"Installing them would have cut the experiment out for months. They would have slowed things up, sure. But the other was the important thing."

"Thiel says you did not more than half try."

"I tried. If it was a half try, that's because it was a whole no response."

"An idiotic arrangement," said Wisla testily, for the seventh time.

It would have been obvious to anyone, despite Wisla's testiness and in part because of it, that he was very troubled by what had happened. It was obvious to Louis, who knew Wisla well, that he was also troubled by a particular difficulty he was having in expressing what troubled him. The difficulty was that, while he felt sorry for Louis (and had trouble enough expressing that), he felt angry, too. He took it—so Louis decided—as inexplicable, hence insupportable, that the experiment, however idiotic and however much the lack of controls was to be damned and deplored, should have failed in Louis's hands. If there had been an accident, why then there had been an accident to a very unlikely person, hence a very unlikely accident—too unlikely for Wisla to condone.

Controls and shielding? Yes, of course, certainly, idiotic not to have them and the things to talk about, but not the core of the matter—even without them a scientist trained to handle experiments should not have slipped—

"How many times you did this?"

"This was the sixty-fourth, so Dave tells me. I *did* it sixty-three times."

—on the sixty-fourth any more than the first time—not one trained as Louis was—certainly not one so sure, so steady—if it was an experiment held over from the war, it was still an experiment that a scientist must not make slips with—most decidedly—if it could happen to this one, it could happen to anyone—it was so *very* unlikely—unreasonable.

Wisla paced round the room, stared at the ice troughs now and again, and hinted at but did not express these troubled certainties, while Louis listened, at first somewhat amused, but finally touched. For it became plain that not himself but the accident, the simple fact of the accident, was the target of Wisla's feeling, and plain that Wisla found himself unable to speak his

feelings out for fear that Louis would think himself the target. I wish I could help him out, Louis thought; but he did not know what to say, either.

"Tell me about Washington."

Wisla shook his head sadly.

"You wouldn't believe it."

"But you seem to get along with the Congressmen. How do you talk with them?"

"Hah! I speak to them of politics and they tell me about the atom. We entertain each other, although possibly not for long."

"I've never met a Congressman, but I've heard some strange stories. Willie Ticken told me last fall about being introduced to a Senator, and this Senator said—there were Willie and a couple of other guys from here—the Senator said: 'My fellow Americans, I want you to know that I've *always* been a friend of atomic energy.' Is this real?"

"To be sure it is. Also Willie and I can tell more such stories, but more about last fall than this spring." Wisla looked at Louis rather sternly. "We have not spent all those months in that awful city for nothing."

"No," Louis said, looking at Wisla speculatively.

No-o-o-o-o-o, he thought; or do I really mean yes?

But the remarkable success of the scientists' lobby, as it had come to be known, was written very clearly in the defeat of the irresponsible May-Johnson Bill, which would have continued the Army in control of atomic energy; and in the success of the McMahon Act, which gave control to the people through their civilian representatives and which was right now on the verge of becoming law; and in ten thousand speeches, talks, private buttonholings, pamphlets, leaflets, educational campaigns, conferences, even classes in physics for Congressmen, and more besides—all planned, undertaken, and brought off by scientists with no experience at doing any of these things, with no money to speak of, and in the teeth of a wide assortment of myths, prejudices, complacencies, misinformation, refusals to believe, and tribal dreams concerning the nature and the meaning and the uses of the bomb.

"No," Louis said again, forgetting that his gaze was still resting on Wisla and not noticing that Wisla was becoming restive under it.

For the scientists who had lighted the atomic fires knew, from all the history of their science, that no man had had the power to hold back the lighting and that no man now could keep the fires from burning for all men; and what they knew they had intoned over and over like the *Kyrie eleison*—there are no secrets, there is no defense, there can be no monopoly—and then had translated and intoned again, over and over—survival is at stake, the time is short, and the crisis is political. Certainly this had not been for nothing. The words had become as familiar as the daily paper, and although people still looked blankly at each other when the words were said, some had come to see that they made sense; it had not been for nothing.

"No," said Louis, for the third time. "But we're still making bombs."

"So," Wisla said, impatiently. "Do you understand? That is a problem to be worked out in the United Nations now. But we go with cleaner hands there than before—at least without generals to lead us."

"I just wonder if we're being took."

"What is 'took'?"

"Still making them," Louis repeated, ignoring Wisla's question, "and that on top of the way we used them. You and I signed those petitions to the President asking him not to use the bomb on Japan, at least not on a target as indiscriminate as a big city. So we used it—and not once but twice—not on one city but two—with no warning—after Japan started peace overtures at that. Oh, very unclean hands. Sam Allison says this was a great tragedy. Senators and generals say this is the way modern wars are fought, which is what the Germans said when they bombed out Rotterdam. I don't know anyone who wasn't horrified, or didn't say he was, at the bombing of Rotterdam. Do you remember the editorials? The terror isn't in what's done but in the speed of our adjustment to it. Rotterdam prepares us for Hiroshima and Nagasaki—except—there are always exceptions—except the

Germans did the one and we the other. I've never known, and I guess I never will, whether what we did really shortened the war and saved lives, as we were told—that's what the Germans said about Rotterdam too. But it did turn out that the invasion of Japan had been planned for November and we dropped the bombs in August. We were not losing lives in August and so the lives we were saving were November lives, and in that case at least, at the very least, why did we not wait with the Nagasaki bomb to see what the effect of the bomb on Hiroshima might be? We might have saved the lives of six hundred medical students. But the answer of course is that modern wars are not fought that way and when Hutchins and the Pope and some others say that our use of the bombs lost us our moral prestige they are not talking to the subject—except I read in the papers all the time how our possession of the bomb is a sacred trust. Somewhere along the line we had a choice, and I don't know who made the choice we took, but the ones who made the bomb spoke their choice for nothing, for absolutely nothing. But of course that's all past and the future may be more important than the past."

The words came out of Louis's mouth with hardly a pause between them and with almost no change in inflection. He looked at Wisla as he talked, although occasionally his eyes turned towards the window. But his head did not move at all. The flow of words came to a stop now, but Wisla, his mouth partly open as though he had started to say something and then had forgotten what, did not speak. There was a moment of silence, of helplessness, and then the flow started again.

"If you keep on looking, do you suppose you'll find the one clue that explains everything—here, or in Washington, or in the stars, or in ourselves? You do keep on looking, although it gets more difficult all the time even to know what kind of thing to look for, although perhaps you never know that. I was looking the other day, on Tuesday, I was trying to think how things were right at the end of the war along about the time Nolan died. The day and date got me into that, I suppose, because this was the first Tuesday the twenty-first since that Tuesday the twenty-first and it was on our minds, or in our minds, one way or

another. I wasn't thinking of Nolan's accident, but just of that time, a week after the end of the war, and the chance we had then to do something about what we'd done, before all the countries would have to take what are called traditional precautions and the whole world would dig in for the usual arms race, as it has now, because the chance was lost. There was a time about the time of Lucretius, and it is probably odd for a Jew to think of it, before the birth of Jesus and after the old-fashioned gods were dead and there was only man—just man—looking out on a universe he only dimly understood and with nothing to inform his senses or to tell him what values to use other than those of his own devisings, the gods being dead. This was just the time when the doctrine of salvation by common sense and the fruitfulness of nature made some headway, and I was thinking Tuesday how if the week after the war—for it was such a time, whatever gods there be were looking the other way that week—how if we had proceeded by the doctrine of common sense and the fruitfulness of nature, how if we had all said, as Urey and some others did say then or perhaps a little later, that the future which could have been more important than the past will be poisoned day by day by bombs piling up, all made here and only here, marked "Made and Used by the U.S.A."—but we didn't. Perhaps the choice that was made before overrode the possibility of any further choice. At least we didn't. We continued the war. I couldn't find the clue, except that not enough voices were raised. I keep remembering someone saying 'In a time of weakness strength may be the highest morality,' but I can't remember who it was or where. Perhaps it is the clue. But as to whether we're being took—"

"Louis!" Wisla called. He came to the side of the bed between the trough and the bed, speaking again, louder this time, but Louis did not seem to hear him and went right on. Then Wisla turned abruptly and went out of the room; he left the door open and even from the corridor Louis's voice, quiet and toneless but quite strong, could be heard.

"—pointed out every other country is doing the same thing, except making atomic bombs. But in the atomic age that makes

quite a difference between what we're doing and what everybody else is doing, although it's not a difference of course that will continue for long, certainly for no longer than another three or four years at most. And how if we talk about control plans, while making bombs, and about peaceful uses of atomic energy, while making bombs—"

Not more than ten feet down the corridor, Wisla, looking anxiously this way and that, saw Charley Pederson come into sight from the stairway and hurried on to meet him.

"—to use the code name Operation Crossroads for a military demonstration like Bikini," came from the room. "You've gone beyond the crossroads in one particular direction once you decide on a demonstration which every scientist in the country knows is without any scientific value and is positively brilliantly timed to take the meaning out of any control proposals we put before the United Nations next month. This is continuing the war almost too—"

"He talks on and on," Wisla was telling Pederson. "I never heard a thing like this. He is not himself."

They walked rapidly down the corridor toward the room.

"Delirium?" Pederson said, but mostly to himself, as though he were testing the sound and the meaning of this word.

"But he is not in the least incoherent. He is most coherent. The words make a very good sense."

Just outside the door of the room they stopped.

"—thought it out, not just the beginning and the middle but the end too? But even this beginning, this new law which is supposed to please us all and represent a triumph—what is pleasing about its embodiment of the fiction that we have secrets to be guarded even though our secrets are revealed wherever cyclotrons are leaking protons at the rate of so many per second? Two cheers for the new law. Were the minds that shaped this policy also the minds that sanctioned the destruction of the Japanese cyclotrons at the end of the war? But if a cyclotron is to be destroyed because someone thinks it is a war machine and if it is now treason punishable by death to disclose the number of neutrons released in the fission of plutonium, a discovery made



possible by the work of Germans, Austrians, Danes, Italians, and Hungarians, among others, why then it has become treasonable to think and a provocation for anybody except us to use the tools of thinking—"

"Dreadful," Wisla said. And Pederson looked at him.

"That Japanese cyclotron. A stupid thing to do." Wisla shrugged his shoulders. "The Army," he added.

"This isn't delirium," Pederson said. He put a hand on Wisla's shoulder, holding him where he was, and leaned forward to peek around the door frame into the room.

"—civilian control, but of what? The accumulating pile of the twice-used bomb and the refusal to share what we have found even with the British, who gave us all their information to make it possible for us to do what we did, and what possible proposals for international control can we build on the premise that we go on making bombs while no one else with our approval can, although of course they will make them harder than ever now and of course they can. Leave us not be naïve and leave us be realistic and leave us make use of a good thing when we have it, and besides who else has so much of the morality that goes with strength in a time of weakness? But leave us also, oh in the name of God, leave us also understand that there is not just a beginning and a middle but an end too, and that the single-mindedness of war and the preparation for war which is so realistic and even rational if you grant certain premises proceeds from an irrationality so great as to require no premises to be understood and is the utmost of which men are capable, hating and fearing their fellow inhabitants of the one known populated star, and soon themselves as well. Control of that. Better the control than no control, but it will not make too much difference so long as the bombs are made—not—"

The voice stopped. Pederson glanced at Wisla, then drew him back away from the door.

"Go back in," he whispered. "Say something to him. Assume you've been there right along. I'll be right in."

"So much of it is true, though," Wisla said, looking at the door. "One could argue at a different time. But so much of it—"

"Ed?" Louis called from the room, and then at once and in a sharper voice: "Betsy?"

Wisla walked on in.

"I went to the bathroom," he said.

"Did you? Just now? I had a funny feeling, dizzy, like fainting. Then I looked around— Maybe I did faint. But we were talking."

"So we were. We still are, but I think you talk too much. You should not talk so much when you are sick. How is this dizzy feeling?"

Louis moved his head around, up and down and from side to side.

"All right. Gone," he said, and then he looked at Wisla with a sheepish look, and smiled almost shyly.

"I was talking *very* much, wasn't I?"

"You said some interesting things," Wisla answered. "I don't agree with all of them, though," he added.

"I have the feeling I was talking more than I—than I have the feeling I was talking. Does that make sense?"

"You forget you've had quite a shock," Charley Pederson said from the door. "Also," he went on, coming into the room, "you haven't been able to keep much nourishment down. So we'll give you some nice body-building glucose, good for what ails you. OK?"

"OK," said Louis.

The stand to hold the bottle and the tube for the drip injection was in a corner of the room, and Pederson went over to it and fussed with it; and finally caught Wisla's eye and gave him a reassuring nod. In a moment Betsy had come in with the bottle. Wisla had paced back and forth a little longer, but no more was said, and then he had left.

The voices singing in the night above the woodwinds and the strings abruptly stopped. Somebody called them, Louis thought, somebody said: "Listen, old friend, will you leave the night to sleep for once so I can get up in the morning and make a

bomb?" Good night, Ulanovs. Good-bye, passion of Beethoven. Good night, oh blind girl of Albuquerque. That brightness in the room was the glint of an interval in man's questioning of nature, which has no beginning and has no end, for there are only the intervals of great moments, of which this was one. But as for the present brightness, that is something else, and we are as blind as you.

Good night, good-bye.

He felt a vibrating pain in his left hand, and a pain that did not vibrate in his right. He discovered that he was shivering. He started to turn from the window and as he did so the glow from the light around at the end of the hospital disappeared. It's one o'clock, he thought, they turn it out at one. He heard the careful footsteps of the nurse mounting the stairway, or it seemed to him that he did, but he looked out the window once again. The night held nothing and nobody. He stood there for a moment, and it was then that he noticed the chattering at the back of his head was gone and the cold core had dissolved. He felt neither warm nor cold. A thought fluttered across his mind like an autumn leaf—Theresa, did you get the wire?—and was gone, and it did not occur to him that if he were to concentrate on this, or on Theresa, or on anything, he could bring it forth. In a purely scientific sense, in the sense that the profoundest laws of nature are evolved as free inventions of the imagination, he now suddenly had the conviction that he was going to die, and it was as plain as the night to him that this was going to require all of his attention, and possibly for some time, because it would not be for several days. Again he turned from the window; he walked very stiffly, from the cold; but he went directly to the bed and got into it. His hands were quite painful now, but he simply laid them in the troughs; if necessary, he thought, he would call the nurse; and if not, she would be in anyway, sooner or later.

It was sooner, as it turned out. She came in, with noisy stealth, a few minutes after he had got back in the bed, and the day ended as it had begun, with little cries and alarms, and the fixing of sheets and towels. The pain increased; two of the doctors were brought; sedatives were administered.

But all of this seemed peripheral to Louis, as the noise and movement of a hurricane might seem to one in the quiet eye at the centre. He answered when he was spoken to, and co-operated with the doctors and the nurse. But his mind was in the quiet eye at the centre, alone. That the eye was moving with the wind he knew, and would move, in a certain time, on over and through him and away. But it held him now, it contained him utterly. The undercurrent of excitement which he had noticed earlier in the evening and which had then seemed pointless to him, seemed now to have been a preparation for this; and the indifference and the remoteness which had come over him with Theresa's letter, so full of the involvements of life.

The involvements of life were all part of the noise and movement which did not and could not touch him in this quiet centre where he was alone, which nothing could enter.

## 6

"With his bare hands," said Colonel Hough.

"With his bare hands," Mrs Hough repeated, and wrote the words down.

"With his bare hands he—or no, make that the young scientist—the young scientist knocked apart the structure."

"The young scientist knocked apart the structure."

"And put out the fire. Read me up to there now."

Mrs Hough read and the Colonel listened.

"All right," he said when she came to a stop. "Now going on from there. In this heroic action both his hands were seriously burned and he suffered bodily—"

"Not so much at once, dear," Mrs Hough interrupted. "In this heroic action—"

"That's right."

And so they continued until the story was done. They had started at a little before eleven and, what with changes and re-

workings and some discussion about the best way to say one thing or another, it was after midnight when they put the story aside.

Mrs Hough said she'd be glad to fix him a little something to eat before they went to bed, but he thought not. She suggested that he come to bed then since it was later than usual for them. The Colonel kissed her on the cheek and said he'd be up very soon. After she left him he picked up the draft of the story and read it through once more. Then he went to the front door and opened it. He looked out into the empty street for a minute; finally he stepped outside and stood on the little walk leading from the door.

He looked over towards the centre of town. He could not see the hospital from here, but he saw it in his mind, and the window to Louis's room was black and dominant in his picture.

Poor Louis, he thought; God damn it, fellow, I salute you. He said these words to himself, and mentally he did salute. He felt truly sad and respectful as he looked across the houses facing him on the opposite side of the street, and he looked away only as the sound of gramophone music gradually penetrated his consciousness.

This, he decided, was coming from the Ulanov house, from which it usually came. It was too late for music to be played this loud, and he thought of Ulanov and his noisy habits with irritation for a moment. For another moment he pondered whether he should call Ulanov and tell him to turn off his gramophone. But then, without knowing quite why, he decided he wouldn't, not tonight at least.

Poor Louis, he thought again. What a plain damn hell of a thing to have happen, just a day before you're supposed to leave, just a day after your girl—Colonel Hough had seen the girl. He had watched her from a distance, across the big lawn in front of the Lodge, dancing last Sunday evening over the grass, in something red—pretty as anything, he'd thought, pretty and gay and warm, he could tell, even from the distance, pretty and full of life and love, he'd guessed, watching. And also he'd thought that he'd have liked a night with that one, or a weekend, or a year,

and this thought pushed up now through nervous dismissals to shame him horribly—God Almighty, and Louis lying over there!

And lying over there—now, at a time like now or any late or lonely hour, if he's not asleep—he's thinking what? What would I think?

What would I think?

What would I think for the next few days while this Beale sits waiting and these other doctors wait and whatever the hell it is that goes on goes on without your being able to do anything about it, without your even feeling it until—and then—

Death strips away so much.

What does Dave Thiel know that I don't? Don't accidents just happen? That wire was to the girl. They just happen, sometimes. But what would I think?

He thought of a number of things, but none of them seemed right, and after a while he went back up the little walk, moving slowly, entered his house, and slowly closed the door.

## PART 5

### Thursday night: *a room by the garden*

#### I

Not since the day the war began had Theresa been at Mr Biscanti's house, although she had promised faithfully then that she would be back soon and although then she had meant it. She had, indeed, meant it many times since, and several times had planned to go or even had started to go; it was only that she had not gone. Then embarrassment at not having gone made it still more difficult to go; and so nearly seven years had passed.

Now, on this warm, rather muggy Thursday evening in May—at just about the time that Pederson was presenting himself to Beale in the barroom of the hotel in Santa Fe—Theresa set forth to find out if Mr Biscanti's house were still there, if he were still in it, if he would remember her, and if he would enter into her plan with joy. Her plan, which she had evolved out of remembrances and emotions left over from her letter to Louis, was only

that she and her husband should have dinner and spend the evening and a night at Mr Biscanti's as they had done so many times as lovers. This could not be for a month or more, but the arrangement could be made, and the sooner it was made the longer it could be savoured, and, quite aside from that, anything which involved Louis and could also be done at once had an urgency and an excitement all its own. So she had decided, getting off the train from Chicago a little before noon and walking through the station where they had had their terrible wait on the day the war began.

Although she had gone from the train straight to her apartment and had been there most of the afternoon, she was not there when the Western Union office called to read the telegram which it had just received for her from Santa Fe. She was round the corner from her apartment, at the little cleaning shop, talking to the proprietor and waiting for him to press the flame-coloured skirt, which, since it was corduroy, she was afraid to try to press herself. She had not worn it since Sunday evening, when they had gone to the Ulanovs' house; she had worn it at Louis's special behest then, and she would wear it, as a private tribute, for tonight's trip.

She could have looked in the telephone book and established whether or not her trip had a destination; but it didn't occur to her to do so. In fact, she was quite prepared to find that Mr Biscanti had moved, or even that he might not remember her, since life was like that; but separately and distinctly she was also certain that he would be there and would enter into her plan with joy, since love conquered all.

Only that was in her mind as she left the old converted house in which her apartment was, and walked along the street in the flame-coloured skirt.

Mr Biscanti's house was there, as it had always been.

The children were playing on the stoop, as other children had played there seven years before.

She rang the bell, as she had never done before. It would surprise Mr Biscanti, he would come puzzled to the door, and—

"It's my little lady!" Mr Biscanti exclaimed. His voice was



joyful, his whole face smiled, and he struggled to push away the door so that he could hold out both arms to Theresa.

For three hours she sat in the garden behind the house, while Mr Biscanti was up and down, speaking to customers. But he was at the table with her when he could be; and between them they made arrangements for what would surely be a lovely night—to be added to the many lovely nights that she had spent in this house, and to the half-lovely, half-sad one, that sweltering last one, the night before the war began—

"Not seven years ago," she said. "Six and three quarters—almost exactly six and three quarters."

"Too long," he observed.

"There'll be nobody in the garden talking about war this time, either," she said. "You won't have to throw anyone out."

She smiled fondly at him and he looked sheepish.

Mr Biscanti's garden was a joke of a garden; the floor was cement, an awning roofed it over, board fences enclosed it. A big apartment house was backed up beyond, and the chipped rears of two brownstones jutted out on both sides. Still, between the top of the fencing and the bottom of the awning there was nothing; through the space of a foot or so the night was visible, and in the light from a window a small tree could be seen. On a sweltering night Mr Biscanti's garden provided the illusion if not the fact of outdoors. And on that sweltering night before the war began, half a dozen people sat at the neatly arranged tables, savouring the illusion, glistening with perspiration, finishing their dinners, fingering their glasses—talking about war.

Most of them had been patrons of Mr Biscanti's since the early days of his establishment. That dated back to 1530 or thereabouts, and nothing had changed in that time—not the food nor the drink, not the furnishings (quiet, tasteless, and worn from the beginning), and not many of the customers. In midtown New York there were dozens if not hundreds of places like this. When the law changed in 1533 some of them died, and more, including Mr Biscanti's, continued to serve their patrons' convenience, to

which was added their patrons' nostalgia. Mr Biscanti's place of business was on a quiet street of old brownstone houses, none older than his, a block away from Gramercy Park. The rumble of the elevated trains came up to it through the street from Third Avenue, the bells of the Swedish Lutheran Church half a block down sounded from time to time, and children playing on the sidewalks made their noises until their bedtimes. But these disturbances could hardly be heard in the little garden itself, where on that night the patrons sat and talked of war.

A tall, slender man of forty-two or forty-three held a glass of something before him and watched its highlights through half-closed eyes. He was talking, half over his shoulder, to a plump man sitting with a woman at the next table.

"You should know your history better, Johnny. Alliances like this happen all the time. It's power politics, just power politics. Take it for what it is." The tall man put his glass down and turned a little more towards the plump man and the women.

"Well, I saw it coming," complained the plump man, "like I said. I said so right here two or three times. They're all alike—hell, I know that. Still, it surprised me—just the way it happened—all of a sudden, that way."

"The Russians have no morals," said the woman.

"Ho, who has any more? The British? The French? Don't make me laugh. They're all in it, they've all got a finger in the pie somewhere, wait and see. Right, Cobb?"

The tall man nodded, but he was studying his glass again. The plump man continued to look at him. After a moment he turned to the woman, who clucked her tongue and said: "You're a cynic, Johnny." They talked together, and the plump man wiped his face with his handkerchief.

The stickiness was a barrier to the talk going on in the garden, enervated it and caused sentences to be left dangling. But common acquaintance and the common subject were spurs that brought forth little flurries. So the talk rose and fell, and expanded and receded again. Under the talk or off to one side, the music from the radio, a worn little cabinet, was a steady, unnoticed flow which broke now and then; and the talk stopped,

and everyone listened to the newest report, which was much like the last one. The announcers strove desperately to hint at sharper meanings than their information yet contained, for at nine o'clock in the evening of August 31, 1939, the information of the radio announcers was drying up from too much warming over. Everyone knew from the sound and the look and the feel and the sense of things, from the reverberations that could be felt across continents and oceans, that the sharper meanings were there, waiting only for the sanction of official statement. Pending that, there were time and compulsion to review, speculate, brood, sigh, and nod one's opinion.

The music stopped now, and heads turned towards the little cabinet. The newest report concerned the possibility that Hitler might call a meeting of the Reichstag in the morning. There was unconfirmed information to this effect.

"But there is still no answer to the question, will Hitler actually move?" the announcer concluded. "Poland is tense. Stay tuned to this station for up-to-the-minute news. We return you now—"

The music came on again. The tall man was shaking his head.

"The question isn't that, it isn't that at all. Are we really waiting to hear whether Hitler is going to invade Poland? But we don't have to listen for that. He will if he wants to, and it looks like he wants to. The question is whether anyone's going to do anything about it. That means England, eh? Will anyone here say for sure that she will?"

The tall man looked around, but it was evident that he had more to say and no one interrupted.

"So she signed a treaty with Poland a few days ago. Good, good, very good indeed. But this isn't a good season for treaties. Besides, what does a treaty mean? Does it mean what it says, or is it a political manoeuvre? Who knows? Anyway, the question is whether England will fight, that's the question."

"She won't do anything," said a young man sitting by himself off in a corner of the garden, "and neither will anyone else. But if anyone does do anything it won't do them any good. There isn't going to be a war. But what's wrong with that?"

The young man had hardly opened his mouth all evening, and

besides he was a newcomer to Mr Biscanti's; no one there knew him. Everyone looked at him now. He was a perfectly ordinary-looking young man, sitting perfectly straight in his chair, and when he had finished speaking, his face held no particular expression. After a moment he spoke again.

"Excuse me. I didn't mean to interrupt. I think that gentleman was about to say the same thing." He looked at the tall man. "Were you not?"

"Well, you make it pretty out-and-out. Things are more complicated than you make them sound—"

"But what is complicated? Either there will be a war or there will not. The question, as you say, is whether England will fight."

And so the tall man referred to pros and cons, to the factor of time and probabilities, while Mr Biscanti, who had come to stand in the doorway between his garden and the small dining-room which was the other half of his establishment, listened. Mr Biscanti himself did not seem to know the young man, but finally he spoke to him.

"I heard you to say there is nothing wrong if England does not oppose Germany. You think it is right for Hitler to do what he is doing?"

"It is not a matter of right or wrong," the young man replied promptly, "except that it is better to avoid war than to have it. But Hitler has made Germany strong. It will do no good to oppose Germany now because Germany is too strong." He gestured with his arms. "And England is weak—as is France."

"I know the argument," said Mr Biscanti, continuing to look at the young man, "it was the argument a year ago, too. It is an argument that gives the world over to Hitler. Do you want to do that?"

"Well, really, I can't give the world to Hitler just by an argument. We all form our own opinions of what may happen, don't we? That's mine. If Germany were weak and England were strong our opinions would have to be different."

Mr Biscanti and the young man were at opposite ends of the garden, and the eyes and heads of the others there moved back and forth as they talked. The radio droned on, nestled between a

water jug and a butter bowl on a serving-table. Mr Biscanti shook his head vigorously.

"It is not enough to say that. Aside from that it may be wrong as to the facts, it is wrong as to the morality. You are just saying that strength must be bowed to always forever. When is a thing like Hitler stopped, or is it not to be stopped? I think a time is necessary to do the stopping, no matter what the strength is. You do not agree with that?"

The eyes and heads turned and the young man looked around before replying. "In a time of great weakness—a time like the present—strength may be the highest morality."

One of the patrons got up to go, stopping by the door to pay his check and to talk with Mr Biscanti for a moment. The tall man, sitting one empty table away from the young man with the expressionless face, swung around to him; he made no reference to what had just been said, but began to explain again the pros and cons of this complicated moment in history.

And then all of the talking stopped as the radio music, felt if not listened to, faded out again. The newest report still dwelt on the meeting of the Reichstag, which was still unconfirmed. There was a moment of silence. And then the talk went on again.

Mr Biscanti's garden was connected by a French doorway with his dining-room, a little smaller than the garden. Six or seven tables were in there, each with a little cluster of oil and vinegar bottles. All but one of the tables were now empty. The occupied table stood by a window opening, which was the dining-room's other connection with the garden. A man and a woman were sitting at this table, had been sitting there in fact since the first of the garden people had come in an hour and a half or two hours before. Through the glassless window they could hear what went on in the garden. But mostly they had been talking quietly together, or sitting silent, not saying anything, not listening.

Mr Biscanti now walked over from the doorway towards this couple. He was a large man, with a heavy frame and a heavy head, and the features of his face sagged and shook as he walked. But he walked lightly, almost, it seemed, on tiptoe. He bent forward slightly, and he held his hands clasped before him. He

stopped a few feet from the table, cocked his head on one side, and, smiling, said: "How are you getting along?"

The man at the table smiled back. "OK." He nodded his head toward the garden. "Who's your friend?"

Mr Biscanti's smile went away and he shook his head slowly. "You heard what he was saying? How did you like that? I can't imagine— Well, I do not know him., I don't know him. But let me get you something." The smile returned.

The man lifted his hand from the woman's hand, which was held out flat against the edge of the table. He straightened a little.

"Why don't you get three zabagliones and we'll have a last supper—you, Theresa, and I. For tomorrow—" He waved his arm.

The girl moved her eyes away from him and patted a chair beside her. She looked up at Mr Biscanti and she looked very fetching, her body leaning forward, her head tilted back, her hand still held out in what now seemed to be a gesture of gay supplication. The man, watching her, suddenly put his hand back into hers. And she received it with a little pressure, continuing to beseech Mr Biscanti with her eyes and her animation.

"Come on, Mr Biscanti. It's a very special occasion—you sit here."

Mr Biscanti, much pleased, demurred. He really shouldn't. He would have to be getting up all the time. They preferred to be alone. But the girl pressed him.

His great head moved slowly up and down. "It is a very special occasion." He bowed slightly, his hands pressed against his stomach. "With such a very pretty lady." He turned his bow towards the man. "And our good friend—we will miss him so much." His face grew solemn. "It is too bad he must go away, too bad after so long, Mr Saxl."

"*Dr Saxl*," the girl reproached him. "You forgot already."

"So I did, so I did!" he cried. "I cannot remember. It is a wonderful thing for our friend—very bad for us. He stays here as a mister—he is made a doctor today, and tomorrow he goes." Mr

Biscanti studied the girl's face a moment and said: "You will miss him."

Louis Saxl slapped the table and spoke self-consciously.

"As the newest Doctor of Philosophy in all the world, to say nothing of being the honoured and departing guest, but most of all the man who is waiting for—well, I will be specific—that's what's needed, I can see—Mr Biscanti, those zabagliones and the pleasure of your company?—it is later than we think."

Mr Biscanti, as he had predicted, was getting up all the time, for people were beginning to leave the garden. In the intervals the talk was the talk of all farewells and reunions, intuitive, over-eager, abrupt in its shiftings, full of sudden silences.

"Do you remember—" said Mr Biscanti.

"Yes, and then—" Louis would say, interrupting to recall a detail.

"Do you suppose—" said Theresa, speaking for the future.

They did not talk of war. War filled the silences, when the talk from the garden rolled in through the window. But they did not mention it. They had talked of it before, they knew how they felt.

"It just doesn't seem more than a year ago," said Theresa.

Mr Biscanti remembered for them how Louis had first come to his place, tired one evening from wandering round the neighbourhood looking for a room; and had sat in the garden over dinner, reading, for nearly three hours.

"He had such a big book," Mr Biscanti recalled. "Eh? That was the beginning of the doctor, right there. Well, I didn't know that. But I find out this young man is looking for a place. He stays so long everybody has gone away, he talks to me at last. You remember, Mr Saxl?"

"Did I tell you," continued Mr Biscanti, who had told it many times, "how only that day, that very morning, I decided to rent the little room on the top floor? I had not even put a sign in the window. What a strange thing!"

For more than a year, Theresa had spent much of her time in that little room, with its view of the back of the big apartment

house and a tiny slice of Gramercy Park. She had taken care of Louis Saxl in sickness and in health in that room. She had read to him lying on the bed, his legs spread out and his head thrown back, his eyes closed; and had been read to, lying on the bed herself, Louis at the little table. It was a very small room, not big enough for two unless the fit were perfect. When she brushed her hair before the mirror over the bureau he could not get past her from the bathroom to the wardrobe. He had sometimes stood and waited, watching, as she had seen in the mirror from a corner of her eye; or had sat on the end of the bed that was the obstacle, abstractedly studying the carpet or wiggling a toe, getting up automatically when she moved to let him pass. She would have to take her brush and comb away. But in the bathroom—more things. And in the bureau, she had forgotten, half a dozen pieces. They would make a little bundle; she would roll them up together and take them all away, in the morning, back to her own apartment. For she had one, and she smiled.

The smile remaining, she remembered how suddenly, sometimes, he fell to sleep. In the dimness of the city glow through the single window she had lain in bed beside him, her head propped on her arm, and studied the bony modelling of his face, softened by night and sleep; and she had travelled with her eyes, or sometimes delicately with her fingers, the long muscles under the smooth flesh of his legs. What would she do for the feel of the flesh, for the taut wet weight and the smell of it—but the touching, too? And the wiggling toe? Could it have been so long?

"Of course, he said he just wanted to be near the zabagliones," Mr Biscanti was saying, "and I don't deny it's a good reason."

"It was your own sterling character that won me," Louis said.

"That and the rent," said the girl, and they all laughed.

"Oh, yes, I knew the rent could not be much. He looked—" and Mr Biscanti went on to tell them how he looked.

The zabagliones were eaten; the chatter from the garden continued; the drone of the radio continued. Suddenly, Louis pushed his legs hard against Theresa's; the movement had a kind of desperation in it, and Theresa looked at him with brief surprise. But she dropped her hand to his thigh and her fingers pressed



against him softly. Mr Biscanti had got up. Now a man came in from the hall and over to their table, talking as he came.

"What's this I hear? Big happenings, eh? Mr Biscanti tells me the news. So you're a doctor, and now you go away and leave us—good evening, miss."

Louis couldn't remember the man's name. "You've met Miss Savidge," he said, and Theresa smiled and said hello. "Pull up a chair."

"That I can't do," the man said, looking vaguely in the direction of some people standing out in the hall. "Thanks just the same. What's the doctor business? You going to be a pill doctor or an operating doctor?" He smiled down on Theresa, and went on in a mock-confidential tone. "Pretty young fellow for either, if you ask me. But I bet he'll be a good one, whichever. You think so, don't you?"

Theresa said she did, and Louis started to explain that he wasn't that kind of doctor. But the man was not greatly interested and the explanation trailed off.

"Well, it's all one long as you got what you went after. That's the important thing." The man started to turn away, but he turned back again. "What you think of what those Russkis did? You think we have war now?"

Louis spread out his hands and nodded his head toward the garden, where five or six people remained. "They're settling that out there," he said.

"I bet they are, I bet they are! Hah! Me, I bet maybe we won't. You know what everybody is forgetting—"

Her hand still rested on his leg, and she felt the long muscle of the leg tighten as he moved, leaning towards the window. The radio music had stopped again and the talk stopped.

"There is still no official confirmation of the report broadcast earlier this evening over these stations, that Hitler has called a meeting of the Reichstag for ten o'clock tomorrow morning, five o'clock Eastern Standard Time."

She thought of the war and the room above, of the night ahead, and of time thereafter.

"—on that basis—" He loves me. "—there seems no reason—"

He loves me not. "—to withdraw earlier estimates of the potential significance of the meeting—" He loves me. "—should it actually be called."

Sooner or later, she thought, the music will be interrupted and the voice will say what all the faces show, all the minds know, all the emotions feel.

"—might march, in his opinion, even without the formality of a declaration by the Reichstag, whose authority, in any event, is tied completely to the will of Hitler."

The voice would be there with them in the little room, overwhelming the last night, measuring its rhythm to the rhythm of their love. But there might be nothing said of the things to say, with so much to say; nothing done; and the feelings left untouched. She closed her eyes, heard the voice again, and suddenly was angry.

"Stay tuned—"

"Well," said the man, still standing there, "I don't know, I don't know. . . . Well, I see you later. Come by the music room and I sing you a song." He nodded pleasantly and was off.

"Will he see us later?" Theresa asked after a moment. The music room was an old parlour on the second floor of Mr. Biscanti's house where from time to time Mr Biscanti and some friends gathered to play poker. They played music, too—old records of operatic arias, scratchy and worn, endlessly repeated. Sometimes they sang. Once or twice Louis and Theresa had joined them, and it had been very gay. But it would not be gay tonight, Theresa thought; time was running out too fast. It was time for them to leave the table, time to go up to the little room.

"Will he see us later?" she had said, and now she formed the words to say what she had meant: "We'll be alone this last night, won't we?" But they weren't said; the ebb of her sudden anger washed them away. Instead she asked: "What do you want to do, Louis?"

Two questions she had put to him, and still he didn't answer. He didn't answer, for in truth he didn't know what he wanted to do. And so in the face of the questions, he sat silent, turning his glass slowly around. He felt Theresa's look upon him. He sensed

the change in her as the tautness of her body, turned towards him and close to him as she spoke, relaxed finally and she leaned back on her seat, still watching him. But because of the distinction he had won that very day, because he was young and tomorrow was going home, and because the tension of the night was in his bones, and because the possessive warmth of the girl was closing around him—for all these reasons he could not speak, not knowing exactly what it was he wanted, not wanting less than that, and feeling ashamed on both counts.

Part of this Theresa was guessing at, turning over the elements of his silence in her own mind. And once she reached out to put her hand on his arm and say her question again, but in different, more answerable words. She drew it back, for in that moment Louis's tightly drawn features, which had compelled her movement, suddenly seemed like a child's to her and her gesture the gesture of a mother. And she thought, both touched and amused and half-angry again—is this man to be my lover tonight?

So they sat. The perspiration gathered on them in the close room, and in the ears of both of them the sounds from the garden, the talk and the radio, became a dull ringing.

This ridiculous situation did not last for as long as it seemed to them; but long enough, two or three minutes. Then Louis pushed his glass away from him decisively, and turned to Theresa.

"I—" he started, studying intently an indeterminate point on her arm, "I'm afraid of last nights. I can't tell you what I want to do, I don't know. Tonight I'm afraid of you—myself—and what there will be in the morning—" He shook his head and, after a moment, went on.

"I'm acting like a fool, I can't say anything. But I can do better when we're alone, I promise you I can." Now he looked at her directly and smiled. "I promise you, though men are weak and women—"

How hard it is for him to say a simple thing, she thought. But she had thought this before, had grown used to the thought, and in any event she usually knew what he felt, or could tell. She wasn't so sure tonight, but tonight she wasn't sure of herself, either. What was a last night made of? Of tears and cries, and

wildness and emptiness—or of checks and restraints, postponing those other things.

In the garden four people remained. The young man was speaking—lecturing, rather. He had been talking about strength, morality, the German genius, Jews and Poles, the Versailles Treaty, certain admitted excesses of the men around Hitler, and now was on the unmistakable dedication of the latter.

"I have noticed that people hardly ever like dedicated men," he said, "that is, in the sense of feeling friendly towards them, or thinking of them as individuals like their friends and neighbors or like themselves for that matter, and so forth. At least, that's true of people at a distance, who just read or hear about what these men do. His dedication means nothing to them, that is, it doesn't serve them directly, so— Of course, the Germans feel very differently about it. Hitler is a dedicated man. Who can doubt it? And the Germans revere him, that is, most Germans anyway. Personally—" he looked towards the plump man—"personally, since I'm not a German, I have no feeling towards Hitler, none at all, except that I can see he is a dedicated man, and you have to respect that, whatever else. Don't you think?"

The plump man grunted and stirred slightly. "That's too fancy for me. It's a paper point, just a paper point. Hitler may be dedicated, like you say, but he's a dedicated son of a bitch, so what's the difference?"

"The British probably said things like that about Washington."

"Oh, come on, now—are you comparing Hitler to Washington?"

"It's not relevant. From a distance and in a time of stress any leader may be wrongly pictured. That is not to say all leaders are alike."

The plump man sighed with elaborate resignation. It had turned out that the young man, who had been so unaccountably silent all the early part of the evening, was a very machine of words once he started. The others had been reduced to listening, or to asking questions and saying things like "Oh, wait a minute—" or "But you're forgetting—." The tall man privately agreed with much of what the young man had to say, but he said

it too bluntly; he made a cause out of it. The tall man thought the young man was crude.

So he smiled a small smile at the plump man, but could think of nothing to say, and for this reason most of all he did not enjoy the situation. He glanced up at the doorway to the dining-room. Mr Biscanti was standing there; Louis Saxl and his girl had just come over and were talking to him, saying good-night and good-bye. And as the tall man looked, Louis looked out into the garden and caught his eye. They did not really know each other, but they always spoke when they met at dinner, as they often did. Louis waved from the doorway, and nodded also to the plump man and his girl, whom he knew in the same way. And then the tall man's feelings prodded him into saying a foolish thing.

"Hey, Saxl," he called, and he got up from his table, "come on out here. We've got a regular Nazi here saying a lot of things. Come on out. You're a Jew, aren't you? You tell him."

Even as he said it he was ashamed of himself. Then he rationalized: he is a Jew, it is perfectly sensible, it only sounds bad. Then he was ashamed again, all in a second; and then he looked as he felt, standing there, facing the three people by the doorway. Behind him the young man spoke.

"There's really no point in discussing these things with a Jew."

The tall man didn't turn around; he just stood there. For several moments, there was only the radio to be heard; and no movement to be seen except tiny movements: Theresa drew her hands up, the plump man's bright little eyes moved back and forth, his girl lowered her head slightly. Louis Saxl did not move at all. He was looking at the young man—who was looking at him—and his expression was almost contemplative.

The tall man was saying to himself: "Why d' I say that, I shouldn't have said it," and the plump man was thinking: "That's a hell of a thing to come right out with, still I suppose there's some truth to it." In Mr Biscanti a wrath was rising and he had not yet shaped and trimmed it into words, and Theresa had gone beyond words and was a well of feeling, of loathing and love.

Louis glanced quickly at Theresa, at Mr Biscanti, and sighed to himself. The young man had really spoken without any special

animus, his voice had carried no emotional charge. His words had been said quite reasonably, as a first principle might be stated, or history revealed. This was the important thing; they held no living, personal spitefulness, they held nothing living or personal at all. Had anyone noticed that? Louis was thinking. Did anyone see that this was the very distillate of the reverberations that could be felt across continents and oceans? He wanted suddenly to tell everyone about this, but wanted equally to tell them to forget it.

All the while, for eight or nine seconds, a very long while for a quietness like this to hold several people, Louis was looking at the young man; at least, his eyes rested there. The young man continued to look back, and his face was expressionless, as though he had neither thought nor said anything for a long time.

The silence ended abruptly, with the crystallization of Mr Biscanti's wrath. He stepped down the two steps into the garden and then he said to the young man: "Get up now—get up from that table and please leave here."

The young man started to—

"You shouldn't have said a thing like that," Mr Biscanti said reproachfully. "Get out!" he roared.

Louis started down the steps, a restraining arm held out. Everyone in the place looked alarmed. Mr Biscanti, paying no attention to anyone except the young man, who looked just as alarmed as anyone now, started to walk towards him. He rose from the table, and moved slowly round it. Mr Biscanti came on; he put out his two hands and laid hold. The young man made protests, but they were weak and ineffectual. He tried to pull away. Mr Biscanti held firm. And then, with his great head thrust far forward, he marched his captive out.

Just before they reached the doorway the young man tried to free himself, not violently, really only to negotiate the steps more easily. But the manœuvre failed. Mr. Biscanti jumped forward, muttering "*no*, no—*no*, no—*no*, no" like a chant; the young man bumped against the table with the radio and the butter bowl and the water jug on it, and the radio bounced, rasped, and was silent.

Then the captive was captive again, red in the face, obviously outraged, but passive. Mr Biscanti propelled him forward, up the two stairs, across the dining-room, into the hall, through that to the front door. Louis, Theresa, and the others formed a little group, watching fascinated from the doorway. They saw Mr Biscanti open the front door, and heard him say: "Now please go and please do not come back, I do not want you here." They saw the young man hesitate just a little, looking back at all of them. All of them at that moment felt sorry for him.

The tall man, for reasons of diverting attention from himself, and the plump man, from admiration, had much to say then about the ejection, the young man's expression at this point, Mr Biscanti's at that. Mr Biscanti, back among them, finally and with sheepish smiles fell in with this. And in such a context it was possible to omit references to the crime that had brought forth the punishment. It was possible, in fact, to be quite gay in the release that Mr Biscanti's sensational march had provided. And so things were beginning to get embarrassing all over again, out of the best of motivations. Louis, who wanted desperately to leave, did not know quite how to do it. But Theresa spoke appealingly to Mr Biscanti, and finally, with smiles and handshakes and good wishes, with some anecdotes and a few further recollections of Mr Biscanti's terrible wrath, with nods and promises and farewells, Louis and Theresa left.

On the second floor they passed the music room. Its two doors were a little open; inside they could see four or five men sitting at the big round table, but they were absorbed in their game and did not look up. Louis and Theresa tiptoed past, and up the stairs to Louis's room, and into it, shutting the door behind them.

In about an hour the lights in the little room went out. At the same time, in the apartment house at the other end of Mr Biscanti's garden, a light went on in the facing apartment and a man turned from the window and sat down and flipped on his radio. In the waters of the Baltic Sea at this very moment the German heavy cruiser *Schleswig-Holstein* was moving slowly through the night toward the warring city of Danzig. But this information had not been received, and the man at his radio learned nothing that

had not been learned down in Mr Biscanti's garden, where the broken radio rested in the dark between the butter bowl and the water jug.

## 2

"I tell you what," Mr Biscanti said to Theresa now. "You go up and see for yourself."

The room on the top floor had not been rented for two years or more; although it still had furnishings in it, they were not quite the same as they had been when Louis lived there; the bureau, for instance, had been given away; also, some things were stored there, but of course these things could be moved out.

"You go look," he said, nodding his head. "Then you tell me what to do. Maybe you like to look anyway?"

So Theresa went up the stairs, past the music room—silent and dark tonight—and on up to where the little room was, silent and dark, too. She reached round the side of the doorway, felt for the light switch, and flipped it. She had forgotten how tiny the room was, she had forgotten all kinds of things about it, and she renewed them all, standing in the doorway. She went on in and sat on the edge of the bed. After a moment she got up and went to the window. She felt the curtains; they were filthy. She walked back to the other end of the room. Then she leaned her head against the wall.

"Are you really coming back?" she said to herself. "Oh, do hurry!"

She stood like that for a minute or more.

Then she looked around the room briskly, made a mental inventory of things to be done, flipped the light switch off again, and briskly went down the stairs to report.

It was after eleven o'clock when she left Mr Biscanti's house. She thought she would walk back to her apartment—it was



about ten blocks away—but a cab came by and she took it. A Western Union messenger had been there; he had filled out his notice of the telegram and stuck it in her mailbox only a few minutes after she had left to go to Mr Biscanti's. But children had swirled like autumn leaves in and out of the small vestibule that evening, and by the time she got back there was no notice there.

She undressed as soon as she got inside her apartment. She unbuttoned and opened her skirt, but held it for a moment, standing with her head bent forward much as she had stood earlier in Louis's old room. Then she let it drop to the floor. She picked it up and tossed it across the back of a chair, unbuttoned her blouse and did the same with that. She walked on into the bathroom and spent a quarter of an hour there washing herself and her underclothes and stockings, putting cold cream on her face and rubbing it off, and brushing her hair before the bathroom mirror; she had no dressing-table. When she finished she wandered out into her living-room. It was even muggier now than it had been earlier, and she put nothing on, not even slippers. The room was not a large one, but it had a high ceiling and two deep, curtained windows at one end. It seemed larger than it was, and it had a quiet, cool feel; Theresa stretched her legs and arms and arched her back, enjoying the feel of her room and the feel of herself alike. She moved over to stand in front of a tall mirror, set into an old-fashioned heavy moulding between the two windows. She ran her hands across her hips and down her thighs; moved closer to the mirror, held her breasts in her hands, and looked at them. She lifted herself on her toes, turned this way and that, and studied herself critically. Finally, she looked straight into the reflection of her eyes and smiled at herself with some embarrassment but even more with irony.

"Hurry," she said, although she did no more than form the words with her lips. She walked away from the mirror idly, as one walks who has no place to go. She lit a cigarette and, moving around the room, noticing places where the dust had gathered while she had been on her visit to Los Alamos, reflected on all

the meanings of "Hurry." She sat down on the old daybed in one corner of the room, noticed that the nipples of her breast were standing forth, and got up again.

"Oh, damn," she said, and ground out the cigarette viciously in a big glass ashtray. But then she laughed and shook her head; and for a while, mugginess or no mugginess, she dusted some of the places that needed dusting. It was long after midnight when she pulled the yellow cover off the old daybed and got into it, this time to sleep. Lying in the dark, she worried over the letter she had written on the train, thinking of what she should have written differently, what she shouldn't have written at all, and what she might have added. She dozed and then woke with a start, hearing words that she knew no one had said, seeing in the dark the details of Louis's room as clearly as her own, and feeling, as she fell off to sleep again, his form and weight beside her.

"Are you really coming back?"

Louis lay perfectly motionless, her voice had not disturbed him. Or she had only thought the words, so strongly that it seemed she must have said them. She thought them again, moving her head slightly so that she could look down the length of his body. She had lain for a long time watching him, propped up on her elbow. Her hand ached from the weight of her head, but still she lay this way. For a quarter of an hour he had hardly moved, except for the slight regular rhythm of his breathing. The glow of the city night came faintly through the one window of his little room, but it was enough for her to see in it, and what it failed to show she saw by her familiarity. He lay naked, as did she, and the sheet of the bed was damp from their bodies, for the night was very hot and the air was heavy. His lips were not quite closed; the faint rustle of his breathing was the strongest sound in the night for her. Hardly aware of her movement, she lifted her free arm and reached over to him, letting her fingers touch delicately the curve of his thigh, and then the flat abdomen, and the softness below the ribs, and then the ribs. He didn't move. She lifted her head and shook her hair and waggled her hand to

ease the stiffness. And then again she lay watching him, looking down on him from her little height, now and then touching him with her hand or pressing her body forward to feel against her legs the flesh of his. She lay thus for upwards of a quarter of an hour more before she put her head down, tiredness coming over her, although sleep was as remote as it had been since they had gone to bed.

He will be the best there is and I will be his bride, said Theresa to herself. She said it to herself with a rhythm, like a song. She arched her head back until she could see the dim glow coming in at the top of the window behind her. It was very quiet. It must have been two-thirty or three o'clock. She heard an automobile horn. And just at the threshold of hearing, she detected the mechanical sound of a radio announcer's voice, coming from some other room in some other house. I wonder what it is now, she thought, I wonder if anybody has confirmed anything. She drew her head back and lay perfectly flat again. She twisted a foot and brushed her toes against Louis's leg. She closed her eyes and opened them, drew up a leg and lowered it, brushed a finger over her eyelashes, lay still, sighed a little, and felt herself to be the lone and restless representative of life on earth. The scene in the garden she had put out of mind. She tried to review her feelings about the events in Europe, but concentration came hard; she would catch up with war tomorrow, or the day after tomorrow. Was it at least possible (she found herself thinking) that after tomorrow they might not see each other again? She had never mentioned that possibility, conceded it only remotely to herself, and was sure that it had never crossed his mind. Still, it was true that no end had been put to this separation, no date set for reunion. "Separation without end" had a terrible and ominous sound; but separation it indubitably was, and the end of it—"Are you really coming back?" (she said or thought).

Louis moved in his sleep, coughed, half twisted away from her, and then rolled back, closer against her than before. Theresa patted him lightly on his back and rested her hand on his damp hair for a moment, doing both of these things without any conscious thought.

He had come into the bookshop where she had been a clerk during the summer of a year before. She had been twenty then, a student at the university uptown. The bookshop job paid her \$22.50 a week, and it had been very important.

He had looked at her diffidently and asked her if by any chance she had a book called *Pity the Tyrant*, written by a man named Hans Otto Storm, who was an engineer.

She had never heard of it, nor of its author either.

"Well, you may not have it yet," he told her, "it's just out. It's a novel, a kind of novel. I can't think who published it. It's got a bright yellow jacket."

She found a listing for it in a moment. She would be glad to order it, and he ordered two copies. Then, remembering that he had described the book's appearance, she asked if he had already read it. He said he had, and they talked about it for ten minutes and through three interruptions by other customers. At the end of this he left, and later in the day she prevailed upon the shop manager to order three copies.

When the books arrived she extracted a copy and kept it with her through the day. She read the publisher's blurb, which prophesied that "in a very short time all those who pride themselves on discovering new talent will add his name to their list." She felt like a discoverer, remembered Keats's "Homer," was superior to customers who came in to order best-sellers, and from time to time reproached herself for being foolish. But in stolen glances at the book she found passages which interested her, and by the end of the day she was asking customers if they had heard of the unusual new book. None of them had and none of them bought it, and from this reverse her interest sharpened into loyalty.

A day or two later Louis came in for his copies. She was looking towards the door when he opened it, and she watched him as he walked back to the desk at which she sat. He was shorter than she had remembered him, hardly taller than she herself was. He gave her an impression of tautness; his hair was brown, his eyes were brown, his suit was brown, and everything seemed to fit together with nothing left over. She thought he looked Jewish,

but she wasn't sure. He started to smile and she noted that his teeth were quite uneven. And then, within a few feet of where she sat, he came to a stop.

"Do you remember me?" he asked.

"Yes—yes, of course—hello. The books came in and I've already read it. It's a wonderful book."

For half an hour, and through a number of interruptions, they talked about the book some more, and other books and other things. In the end they knew something about each other and each was making private notes and finding small details—the shape of an ear or the movement of a hand—to dwell on and return to. Neither used the other's name, they did not touch each other once, and for two weeks thereafter they did not see each other.

There had been excitements in Theresa's life, and yet no one of them had given her as much as she was prepared to take from them. She was, moreover, a possessive girl, and always her possessiveness had been thwarted. The young men who wanted her did not want that, not knowing what it was, not sensing the devotion and strength within it, or perhaps frightened by what they sensed. Three years as a liberal-arts major had failed to blunt her sensitivities, and her mind was active still. She sought to probe and to comprehend the thinking of the men she met, and this was either too much for them to bear or too demanding for them to meet. She was, in a word, more mature than the company she kept. But in that summer she was not yet mature enough to have broken with it, or to have moved beyond it.

Besides, it was pleasant company, made more so because Theresa was a handsome girl, full of winning ways. And if her forcefulness caused alarms and trepidations among cautious young men, it also warmed their blood before that. They dreamed of her jaunty breasts and were suspicious of the cast of her mind, would have died to rescue her from evil and hardly knew how to spend an evening with her. They took her to dances, to sail on the Sound, walked with her at night along the river, and sat with her over beer in respectable neighbourhood beer parlours. She did what her friends did, and the life left her virginal, body and mind. But

what it provided she needed, or thought she did, and in any event it was what there was. So she took what there was, and wanted more, and wanted most of all to give, as possessive people very often do.

At this time Theresa lived with a friend, a girl two years older than herself who had a busy job in a downtown office. Theresa did not often see her and, for that matter, had not much in common with her. But the arrangement was almost the central fact of Theresa's existence. She had argued doggedly with her family to achieve it, taking one by one the barriers put in her way: she would earn the cost of it; she would be perfectly safe; she loved her family, she would see them constantly, but this independence she needed. Why she needed it she could not explain, even to herself, and so she did not win her point so much as she prevailed.

For all that she was independent now, with a place half her own and a job to keep her, the other facts of her life were as they had been. Into the new setting she had made came her old friends. Her job at the bookshop, acquired at the beginning of the summer, had not as yet made known whatever its effects would be. At the time she met Louis, she was, in fact, turning slowly in upon herself, and she was touched with both the fact and the fancy of despair.

Her first two meetings with him disturbed this turning-in. And yet not enough had been felt, not enough put into motion, to stop it or to give her anything in its place. In her heart she dwelt on what her eyes had seen and her ears heard and her spirit felt, but cause and effect down there were too raw to be accepted or even clearly acknowledged in the areas of inhibition higher up. She pictured him to herself from time to time. One whole evening she leaned on the windowsill watching the activity of the street when she might have gone out with her friends. Her life seemed emptier than before, her friends more remote, and she even put aside despair for the more precise preoccupation of puzzling why these things should be so. She puzzled for nearly two weeks. When he came into the bookshop then, she got up from where she sat and ran to meet him.

In the days that followed, the longings grew, and from seem-

ing empty Theresa's life came to be full almost beyond bearing. For every day they were together more, although these days did not begin for them until Theresa's work ended, and did not go far into the evenings. Most evenings he studied in his room for the degree he would receive a year hence, or worked in a laboratory on an upper floor of the physics building. He had pointed out to her which windows were his, and sometimes, at the window of her apartment five miles down the island, looking north towards where he worked, she would see in her mind a single frame of light steadily shining in the dark, and behind it creation burning bright.

But they were together when they could be, except for the nights beyond the evenings. The circumstances of their lives were not really strict enough to have kept them apart then, nor their temperaments either, as time went on; yet there was enough strictness in both together to hold unless it were assaulted, and time went on and it was not. She found that what she had to give—the wholeness of her heart—he was able to receive, and hold, and not injure, and not view warily. And so she gave it all the more. He took it, and was kind to what he took, and that seemed to be the end of it. But if she saw a dam she felt a pressure, and the days and the nights alike were full with one thing and another.

She found that he knew a thousand things which she did not. She learned a little of the nature of the physical world from what he told her of his work, and something, she felt, of the nature of man, even something of herself, from the way he told it. For she found it as plain as revelation that when he spoke he spoke for the dignity of man, for the soul's searching, and its humbleness withal. The revelation cast its light upon them, and although she often found her interest turning to what lay in the shadows, she reproached only herself for that; so her dissatisfactions became his nobility and his nobility her pride. In that part of her where the longings lay, the danger of this compromise was recognized. But there seemed to be nothing to do about it, after all. And after all, the longings could still go on, and the pressure still be felt, while she came to understand

the nature of the Heaviside layer, why Chadwick's discovery of the neutron has been such an enormous discovery, and the difference between science and technology. They talked often of growing up, in Sandridge County, Illinois, and on Riverside Drive, of the likenesses and unlikenesses of their childhoods, of the similarity of people everywhere of the oneness of life, and of life. But when they got to themselves and now, the talk was different, less free, merging into silences that held meanings less easy to discuss than the meaning of life.

He came to her apartment for the first time one evening about two months after they started seeing each other. Theresa's roommate was not there, and they talked of her. Louis had come to a recess in his studies, and they talked of that. For an hour a tension grew slowly in the room. They moved about and then sat on the daybed, got up, looked out the windows, and again came to rest, this time with Theresa lying on the floor, her head on her hands, her legs stretched out. They were within arm's reach of each other but separated still by the workings of their minds. They talked of many things, each more inconsequential than the last, and it happened that Theresa recalled to mind a poem, and said a line of it. Louis told her that he had once written a poem. She asked him please to say it to her, and he told her he could not. She demanded it and he demurred. She asked again, and again he said he could not say it. After this she lay silent for a while, looking up at him. Then she twisted her body until her head was right at his feet; she put her head against them, and for quite a long time she lay this way. Then she said again: "Tell me it." And finally he did, speaking low and not evenly:

*"If Death should say: 'I offer you  
A robe of earth, a crown of dew,  
Communion with the roots of things  
And friendship with the blossomings  
Of violet and meadow rue,'  
I think that I should find content  
In going to his tenement.*



*But Death says this: 'It's time to go:  
I offer you the dark, the flow  
Of silence and imprisonment  
In clay.' He says: 'Life nears its close,  
Forget the blossom and the rose,  
Forget the things of sound and light,  
Come walk with me into the night.'  
And I must follow. This he knows."*

As he said these words Louis leaned back more and more upon the daybed, for self-consciousness compounded his passion into breathlessness; and at the end he was all the way back and wholly out of breath. From this position he could not see Theresa at all, could see only the ceiling in fact; he could feel her head and for a long time it didn't move.

"It's a lovely, lovely poem," she said at last; but still no movement. And he said nothing.

"How strange you are," she said after another long time. Then she got up from the floor and sat down on the bed beside him. He lay with his arms at his sides, with one hand open waiting to be taken, and she took it. They often walked hand in hand, or made a point, privately, of touching each other or standing with their shoulders touching, in much the way and for just the reason that animals nuzzle each other. But, though by now both of them suspected that tonight there would be some fruition for them, neither of them yet moved beyond the touching to achieve it. For now that they thought it would come, they wanted to feel the vibrations and the ringing of the air against their ears a little longer.

"How did you happen to write a poem like that?" she asked him.

"Well—everyone writes a poem about death, or thinks one at least, particularly when they're young, and I was young when I wrote that. But it's not a real poem, you know, it's a trick. I wrote it to see if I could do it. Do you see what the trick is?"

"It's a trick to write a poem, but you don't mean that, you mean something different than that."

"Yes, but I just did this to see if I could do it. I just wanted to write a lyric poem, you know, an emotional poem, without using the emotional words, just the nouns and verbs, no adjectives or adverbs. So I wrote this. There aren't any adjectives or adverbs in it. It's just a trick poem."

Her fingers were moving among his fingers, pairing off against them, pressing them back, intertwining with them, moving and touching. But her mind followed his words and for a moment the business of the fingers stopped as she looked at him, both serious and amused, to learn from his face if he were telling her the truth.

"But why did you want to do that, I mean write an emotional poem without using the emotional words?" But before he could tell her she laughed, and used the occasion of this release to press her body down against his for a brief moment, sitting up again at once.

"It's perfectly clear why," she said, "it's the way a scientist writes a poem. Or no, it isn't that, because it's a real poem, a truly real poem. It's the way a poet who's a scientist is both at once. 'If Death should say—' Tell it to me again, Louis."

"No, no, Theresa, it's not a real poem, it's no good."

*"If Death should say: 'I offer you  
A robe of earth—'*

And what then? Louis, I do want to hear you say it, I want to know it."

So they said it together. Theresa got a pencil and paper, they said it together, and she wrote it down.

"But now what you should do is really see if it's best for the poem to leave out every adjective and adverb." She burst out laughing. "What a funny sentence, what a funny way to write a poem." But she was serious at once. "It's a good poem, dear Louis, it's much more than a trick, so you have to treat it like a poem, and if it wants an adverb—"

"This isn't the kind of poem that can have an adverb," he objected, "adverbs are for other kinds of poems."

"No sir, that's the scientist speaking, not the poet. But you've made a poem and it's a living thing, don't you see? It's out beyond you now, all you can do is help it live more fully." She bent down to him and kissed him lightly and immediately drew back. "See?" she said. It was the first time she had kissed him; but the mood that brought this initiative to birth was not yet the mood to sustain it. She lowered her head over the paper with the poem on it, and formed the words soundlessly, reading the lines. The kiss was warm on Louis's lips, and the air was taut; but still he lay motionless, watching her read his poem, waiting for her to say more about his poem.

"You know, there's a line that's less good," she said after a little while, "the line about 'Life nears its close.' Maybe there—What else rhymes with rose and knows? Those—grows—pose—"

"That's true," he said, stirring, "that's true about that line. You know, I did have another there:

. . . He says: *'Forget the rose  
And every other thing that grows. . . .'*

But those are adjectives. I looked them up."

"But that's so silly." She looked at him sternly. "You're making a poem and you use what you have to use. I like that line better and I'm going to write it in."

He watched her and shook his head. "You're destroying the whole point of it. There's nothing to this but the discipline, just the discipline of the trick, and if you take away the discipline you destroy the meaning. You wouldn't add an extra line to a sonnet just because you happened to think of a nice extra line, would you? You wouldn't have a sonnet if you did."

"Why not?" Theresa said. "Anyway, there are disciplines and disciplines. You know, I think you could have it read:

. . . *'Forget the rose  
And every other thing that grows,  
And every sound and every sight,  
Come walk with me into the night. . . .'*

She repeated this and nodded her head approvingly. "You might have the discipline," she went on, "of using just words with an *e* in them, or maybe words without an *e* in them. That would be discipline, too, but not very intelligent discipline. What's more important, the poem or the trick?"

"Which is better," said Louis, "a successful experiment or a third-rate poem?"

"A first-rate poem is better than either."

"But it's not first-rate."

"Then it isn't a successful experiment, either. We'll make it so."

"I'm not a poet."

In the end the true heart prevailed over the reluctant mind. They rewrote Louis's poem, although not so very much; it came out with adjectives and adverbs in it, and Theresa gave it an official reading in a clear, proud voice:

*"If Death should say: 'I offer you  
A robe of earth, a crown of dew,  
Communion with the roots of things  
And knowledge of the blossomings  
Of rose or weed or meadow rue,'  
I think that I should go content  
To his enormous tenement.  
But Death says this: 'It's time to go,  
I offer you the dark, the flow  
Of silence, and imprisonment  
In endless time. Forget the rose,  
And every other thing that grows,  
And every sound and every sight;  
Come out with me into the night.'  
And I must follow, as he knows."*

When she finished she sat on the edge of the daybed, half facing him, and put the paper aside and looked at him very seriously. "You should be very proud of having written that, my darling Louis," she said to him.

"But it's not mine, it's ours," he answered, and then was

flooded with embarrassment at what he conceived to be the sentimentality of his words. Embarrassment made him crude; he reached up and pulled her down to him awkwardly, found her lips and kissed her hard, so hard that it hurt, although she gave no sign of it. In a moment the embarrassment receded, and the crudity went with it. Theresa, lying flat on her back, her eyes closed, smiled faintly to herself, remembering her question: "What's more important, the poem or the trick?" Well, the trick, she guessed—her trick, not the word trick—but her trick was the poem, and all had been fair.

Oh, my darling!

And coming awake now through the words of that poem which she had heard and read on this very daybed, and through the sound of a radio on the threshold of hearing, and through the faint rustle of his breathing—which, however, turned out to be her own as the room turned out to be her own and the time turned out to be the present—she remembered how, early in the morning of the day the war began, he had roused her from the sleep that had finally come and they had put their robes on and walked noiselessly down the stairs through Mr Biscanti's silent house, back along the hall to the garden. At the table inside the doorway he had turned to the radio, twisted its knob, and stood waiting while they looked at each other with sleepy eyes. The dial glowed as the set warmed up, but no voice followed. Then suddenly remembering, he turned the little box around and peered into its works; took out a tube, tapped it, and put it back; peered some more, then reached for something dangling from a wire.

"The grid cap's off," he said. "Precision upset by passion," he murmured.

He turned off the set and carefully replaced the cap atop its tube, and then again turned the set on. The glow returned and a moment later came the clear hiss of a broadcasting channel. For a second there was only this. Louis reached out to draw up a chair for her, and as he was doing this, as he turned away from

the set and stretched his arm toward the chair, a voice spoke to them:

"Danzig was fired on by a German battleship thought to be the heavy cruiser *Schleswig-Holstein* an hour ago. Troops have crossed the border."

Six and three quarters years ago, she thought; and next month the war at last will be over for us; we should go down again in the morning early and turn the radio on again—to records and weather and things like that.

And tomorrow will be Friday, she thought; maybe I'll hear from him, maybe he wrote me a letter, too, before he left for Bikini.

One more involvement, just that one, and *then* there'll be an end to separation. Yes. Oh, the involvements of life! she thought—the awful, blessed involvements of life. They give and they take away, and they promise so much, there is always, there has almost always been, the promise.

## PART 6

### *a few roads through the countryside*

#### **I**

Now on that first day of September 1919, when the war began, Edward Wisla sat in the chair of the head of the department of physics at the university, his feet on the desk in front of him, his face hidden behind a newspaper. Two or three other newspapers lay on the desk or on the floor beside him. From time to time he let the paper he was reading fall to his lap, shook his head slowly, thrummed on an arm of the chair, or stared off into space. Each time he returned to the paper, reading over and over what was said there about the beginning of war. It was early in the morning, not yet eight o'clock. Dr Plaut, in whose chair Wisla sat and on whose desk he had his feet, hadn't come in.

"I don't expect him till anyway eight thirty," his secretary had said. "He made a speech last night. Make yourself at home. Would you like some coffee?"

"OK," said Wisla. "What do you think?" He waved a paper at her.

"I heard it on the radio. Isn't it awful? Dr Plaut didn't think it would happen."

She had made the coffee and gone out. And so Wisla waited, and read what there was to read, which wasn't much except that it stated the all-important fact. About the whys and wherefores Wisla knew more than the papers could tell him, and he was thinking of this, too, there in the early morning, waiting.

Wisla was an Austrian, a young man, not yet thirty-three, a little roly-poly in appearance, usually quite diffident in manner. But Wisla's diffidence sometimes gave way to a particularly transparent aggressiveness, as though he had put on a salesman's suit and was determined to act like a salesman. On these occasions he laughed and joked, clapped people on the back, tried painfully to work unfamiliar slang into his conversation, and was generally puzzling—certainly to others and, it sometimes seemed, to himself as well. That remarkable man of science Walter Nernst, who had been Wisla's mentor in the 1900's, would have recognized the mannerism for what it was and would have enjoyed it hugely.

Wisla had studied under Nernst for two years in Berlin and, like most of his students, had found him the very model of what a rounded man should be. Nernst knew everything and everybody; a scholar among scholars, and a very sharp and witty fellow besides, he had done a great deal to shape the massed brilliance of German chemistry and physics for the quarter of a century which began with the Kaiser's patronage of scientific research and flickered out in the fog of the Fuehrer's racism. The Kaiser's interests were military and economic, but it was the findings rather than the finders of science that he bought to serve his ends. And under this sanction the scientists were free to live morally within their work, paid for by the money that Emperor Wilhelm II extracted from German industrialists in return for inviting them to state breakfasts, and keeping the preserves of the public interest open to them.

The Emperor's plans miscarried, but not the plans of the



scientists. Fertilized by the luminous genius of Einstein—whom Nernst had helped to cajole out of Zürich in 1913—the get-togethers of the physical scientists in Berlin paced and prodded man's thinking about the world around him all through the twenties. As one of Germany's foremost physicists and chemists, Nernst made a steady contribution to the "Berlin seminar," did some ingenious experiments, and won his Nobel Laureate along with the rest—German and Austrian scientists took half of the Nobel science prizes in that rich period, and their students took a good many of the rest. As a kind of intellectual husbandman, Nernst helped to keep the peace among his colleagues. He taught well, talked brilliantly, went to dinners, and saw plays. Many of Nernst's students went through at least a period in which they tried to model their personalities after his, which was sometimes free and easy, sometimes passionate and vain, and never simple. Wisla, although his modelling was a horrible caricature of the original, seemed to get a grim satisfaction from the effect he produced, and in any event the means by which he produced it had long since become his own.

But while he gave the imperus to this little quirk in Wisla's character, Nernst laid priceless gifts before his student, too, and Wisla had taken these and used them better. He had learned a whole repertoire of experimental tricks, those laboratory devisings by means of which the particular observations and imaginings of inquiring minds are tested, combined, interpreted, projected, fitted, and pieced together into the general laws of the universe. And he had sharpened his scientific instincts on Nernst's real passion for knowing and explaining the deep interrelations of nature. There were few places in the world where he could have learned so well on either count; in most centres of learning the tricks were taught to excess, and in too many the interrelations were ignored. Even at the University of Berlin in the twenties Wisla could have got a good deal less than he did; for the swelling cord from Bismarck to Hitler ran through its corridors as well as through the streets outside, and the cool, blond rigidities of the Prussian approach to science or anything else were there alongside the intuitive, expansive,

even liberal perceptions of Nernst and his closest colleagues. Wisla got both, in fact, and just as diffidence and sudden aggressiveness conflicted in him, so did a kind of tolerance and a kind of stiffness.

After his studies at the university Wisla did some research work there for a while, then went back to Austria, taught at Vienna, and spent his hours and days exploring the glimmering subworld of radioactivity. He did nothing else; indeed he had not looked beyond his work for years. In the course of his work he wrote a dozen papers; the workers of Vienna were massacred and he hardly heard about it. In Germany and Italy, where the doom of Austria was being written, his papers were read with interest and respect. In France they came to the attention of some of the members of the Curie Institute, and so it happened that Wisla was invited to come there.

He went in 1906 and stayed a year. Mme Curie was gone, dead two years, but the Institute was still the international house she had made it, with students and scientific workers from all over Europe going and coming and working. And in this climate new meanings began to sprout from the sense of the inter-relationship of things which Nernst had planted in him. Like many delayed growths, Wisla's social maturing was almost wanton when it came. One night in a café a Czech scientist, surprised at Wisla's ignorance of what had been going on in Austria, told him a little about the slow and unclean strangulation of his native land. And two years later Wisla burned with anger and shame at the murder of the Vienna workers. He had many such quick courses in current events while he was in Paris, and his work suffered under the impact of them. For a while he wanted to leave Paris at once, to go back to Vienna and fight for freedom, build barricades, track down villains, separate Church from State, and much besides. The sophistication of his colleagues was the rock on which this ardour foundered. They whetted it, baited it, laughed at it, but in the end, since they recognized better than Wisla the deadly seriousness of the things that called it forth, they reasoned and philosophized with him, and, having worked him quickly up, they worked him

slowly down. At the end of his year Wisla was sighing instead of burning, and his work was better; still, he knew many things he had not known before, he knew them for good, and his mind and his emotions had come closer to each other.

A few months after his return from Paris, Wisla made a trip to Salzburg. He went for no particular reason; he had some spare time, was tired, and wanted a little outing by himself. He had the vague notion that he might even go on down to Berchtesgaden, only twenty miles farther from Vienna, and snoop at Hitler's aerie. But he didn't get that far. For the day he arrived in Salzburg—it was Saturday, the twelfth of February—and right at the railroad station, he saw Chancellor Schuschnigg. Wisla had met him as the Minister of Education a few years before. He hadn't seen him since. He didn't know that Schuschnigg had just come from a meeting with Hitler, a meeting which had left him beaten and bruised and shaky. But there he was as Wisla got off the train from Vienna. He was sitting in a car, and half a dozen people, in and around the car, were talking to him. Three or four state cars were lined up, and half a dozen bodyguards had quit their functions to gather around the Chancellor's car to listen in. A few dozen Salzburgers were gathered around, too, at respectful distances, but all watching.

Schuschnigg looked ghastly. His eyes moved from one to another of the people talking to him, but he was saying nothing. His lips were slightly open, as though he had forgotten to close them. He was leaning forward, with a cigarette in one hand. As Wisla looked he threw it away with a slight, automatic movement, and automatically reached in his pocket for another.

Wisla glanced around. No one was speaking except the men at the car, and Wisla couldn't make out their words. And then suddenly the bodyguards turned from the car and began to shoo the crowd away, walking out in several directions, talking and gesturing. At this moment Schuschnigg looked out directly at Wisla, blankly at first, finally with a vague recognition and an apparent effort to bring him to mind, or to focus his eyes. Wisla smiled and bowed slightly. When he looked up, the

Chancellor was still gazing at him, but the recognition was gone, the eyes were blank again, the whole face was dead and stunned as it had been before. And then a bodyguard reached Wisla and waved him on.

Schuschnigg's near-breakdown, which should have been private, had been so public that within an hour all of Salzburg knew about it. Wisla learned about the meeting with Hitler, heard a dozen reports of what had happened, and constantly saw before him the sick, weak, frightened face of the Chancellor. That evening, frightened himself, he took the train back to Vienna. Vienna knew all about it, too; official secrecy was painfully being maintained about everything. Wisla searched out friends and told them what he had seen; they told him what they thought it meant; they all did a great deal of looking at each other and less talking than usual. So Wisla passed three days, waiting for announcements, looking for signs, doing no work, and pondering all the time what he would do if— As to that he wasn't sure. He had lots of company, most of the city. He was not a Jew, not a trade-unionist, neither a Socialist nor a Communist. His daily life put him in the way of no petitions, no political speeches, no meetings that anyone was likely to frown upon. He asked himself what could happen to him, no matter what happened in Austria. And by his question he saw that something was happening to him already.

In the Wednesday morning papers Wisla read that Schuschnigg had turned over the key posts in his cabinet to the Nazis, had let many of them out of jail, had, in a word, capitulated. Wisla read these papers in a café near the university, where he had breakfast along with a number of instructors, some students, and research workers like himself. They were all reading the papers, and as the talk took over, the creeping anxiety of the past few days and the anger of his first few months in Paris came together and laced Wisla around. The frightened face that he had seen in Salzburg came into his mind and stuck there, making an overlay to everything he turned his eyes to all day long. That evening he made the decision to leave Austria. He would go back to the Curie Institute. He would go to England. He might

even go to the United States. He had had correspondence with several universities. He would have more.

In his mind the excitement of going, once the decision had been made, grew stronger than all the emotions of leaving his native land. He really had no inkling of the thousands of people who were leaving out of despair rather than excitement; for, once he had made his decision, his own anxiety and anger receded into the pattern of things he was leaving. The things he had to do, the people he had to see, the papers he had to fill out, and some of the thoughts he had to think—all of this put him at least physically into the swelling stream of Europe's forlorn and hunted people. But while he rubbed shoulders with them, looked into their eyes, and compared mechanical problems with them, the difference was too great for him to see. From the middle of February to the middle of March, as Austria's thin props cracked one by one, Wisla heard the sounds almost with satisfaction, finding confirmation of the wisdom of his move.

And yet the thing he knew was happening made its wound and left its pain in him. He was at the radio when the last prop cracked and the waves washed over Austria. He heard the weak and frightened Chancellor say the end, and it could not have been said without a measure of dignity, and the dignity was heartbreaking; "And so I take leave of the Austrian people with a German word of farewell uttered from the depths of my heart—'God protect Austria.'" After that, in the tempo of a death march, the Austrian national anthem was played, and then the opening bars of the Seventh Symphony. For three hours thereafter—with only occasional interruptions for curt instructions to the people, the army, and others—the voices from the days of glory sang Austria to its death: Beehoven, Schubert, Mozart, Strauss. For three hours Wisla sat listening. The music engrossed him for long periods, and he thought only of it. Then abruptly the occasion of its playing would assail him and his emotions would tighten. He was depressed and weak with sentimental feelings; then he was fearful, and then he was exhilarated. He felt himself a member of a great people and saw for himself a brilliant future; but that feeling died and

he felt despised, uprooted, forever lost. His self-pity would lose itself in the music, and the hold of the music on him would break in a surge of fury.

Shortly before midnight the radio blared forth the *Horst Wessel* song. The Nazis were in the streets and in the Chancellery as well; Schuschnigg was a prisoner. Wisla left his room. From being alone he wanted friends; he had no family, only his father, who was a hundred miles and a long generation away. But he stopped at three apartment houses where friends of his lived; no one was at home in any of them. Farther on, near the centre of the city, he ran into a medical student who had helped him in some of his work. The student stared at him.

"I thought you were leaving. Why don't you get out of here?"

Wisla told him that he had tickets for Paris for two days later. The student continued to stare, and shook his head.

"Did you hear about Professor Baumgarten? He killed himself tonight, with his wife. I heard Egon Friedell killed himself. Have you seen what they are doing to the Jews in front of the Bristol? You'd better go, you'd better run for it while you can."

"But I'm not—" Wisla stopped himself.

"No, you're not," the student said. "I hope no mistakes are made. Also, I hope the trains are leaving two days from now."

He looked at Wisla a moment longer, then turned and walked quickly away. And Wisla, after a moment, turned and walked quickly away, too, back to his room. He reached the South Station a little after one o'clock, and two days later he was in Paris.

His old colleagues greeted him warmly, asked him endless questions, and finally remembered that a letter was waiting for him there. It was from Dr Theodore Plaut, at Columbia University in New York, and it invited Wisla to join his department: "Baillie is here with us and Cardo is, too . . . we have most interesting plans . . . I am sure you could contribute a great deal . . . I am sorry that the salary cannot be more." Toward the middle of April 1908 Wisla was at the university. There were half a dozen Europeans there, and others at other univer-

sities, with experiences not unlike his or much worse than his; and more arrived in the months following. . . .

He looked at his watch now. It was a quarter to nine. His thrumming on the chair arm took on a faster beat and he stared angrily at the door. "Why isn't he here?" he said to himself. "He's a fool. We must hurry—we must hurry." And then he heard Plaut's voice outside, and he jumped up from the chair.

"Theodore!" he shouted.

The door opened and Plaut walked in, a tall man who carried himself in the self-effacing way that tall men often do. He looked younger than Wisla and was actually seven years older; there was tiredness in his eyes but not a line on his face. He had on a tweed suit and in all had a rather tweedy air about him, which he had borrowed from the British, whom he admired. Moreover, tweeds made him look even younger, and from this he drew an innocent and increasing pleasure.

"Where have you been?" Wisla demanded. "Haven't you read the papers? We haven't a day to lose."

Plaut smiled, crossed the room, and sat down in the chair that Wisla had just left.

"Oh, come on. It isn't as bad as that."

Wisla looked at him coldly. "There are all kinds of scientists," he said, "including even administrators and heads of departments. Humble researchers such as I cannot do everything, but are we not expected to? Even to think of the politics of science? You vass not there, Charlie. Shall I tell you all about it?"

Wisla was walking back and forth, striking poses.

"Einstein wrote a letter to the President three weeks ago. But Hitler stopped the sale of Czechoslovakian uranium two months ago. What is Weizsaecker doing? What are Heisenberg and Hahn doing? Have you seen a German physics journal lately? What do the papers say to those who can read? Mr Hitler shouts from the housetops that projects related to the fission of uranium are well under way. Close quotation marks. When will the Einstein letter be delivered? Who has it now?"

"A man who knows the President," said Plaut.

"A man who knows the President. I see. How often does this man see the President, and also does he read the papers?"

"You know him," Plaut said. "Mr Sachs. He'll see him as soon as he can, and I dare say he reads the papers."

"Can't we do things faster, Plaut? I'm most serious. Poland is a nothing, perhaps, but it is near the last of the nothings. I have been a stupid man, Plaut—Theodore—about many things, but I do see it most clearly that there is not now truly a minute to lose. Who knows what the Germans have found out? Einstein himself can only guess. What do you guess?"

Neither of them said anything for a moment, while Wisla stood in front of Plaut's desk looking for all the world like a student waiting for word of an examination result. Presently he continued.

"Perhaps we are all of us wrong, the Germans and all the rest of us. It is possible. It may come to nothing. It does not seem so. And yet it will take a terrible effort to find out. I wonder if we can—swing it. It would take so much money, and of course so many men."

## 2

From Mr Biscanti's house, that morning, Louis went up town to Dr Plaut's office. He presented himself there just before ten o'clock. He had an appointment to say good-bye, to receive some words of praise for his work and some counsel on his future. It was a duty call, but a pleasant one; Dr Plaut was a decent fellow, talked about what he knew about, and—best of all for future purposes—really worked to line up jobs for the hopeful young men on whom he conferred his degrees.

"What's he like?" Theresa had asked Louis once, shortly after she had met him and was asking about everything.

"Some of the people up there say he might have got a Nobel for what he did on scattering from crystals. Well, it was the



*kind* of thing you might get a Nobel prize for. Of course, he has to run the department now."

"And what about Plaut?" Theresa had asked a few weeks before, when Louis was telling her about the remarkable minds of Wisla and Cardo and some others.

"It's a different matter with Plaut. Whatever you mean by scientist when you talk about Plaut isn't what you mean when you talk about Wisla. They revolve around different centres. Plaut's up to his ears in a thousand things, and Wisla's up to his ears in one. Plaut runs the department, he's a vice-president in charge of research. That's why he isn't a scientist any more—well, a different kind. It would be interesting to know why he made the change."

"Something for the ego."

"No. I have a feeling it would be the reverse of that. But I don't know. What do you want me to be—head of a department or a Nobel Prize winner?"

"You will be both," she had said.

From Plaut's office Louis could hear the voices as he sat, like Wisla earlier, reading the papers, reading the stories over and over. He asked Plaut's secretary the same question Wisla had asked and she gave him the same answer.

"What's all the talk about in there, Lily?"

"I wouldn't know," she said.

"You know I have to catch a train in only seven hours, don't you?"

"Were you scared when you took your orals?" Lily asked.

"No. Well, yes, I suppose, at first. But then Plaut— What's this got to do with seeing Plaut?"

Lily's phone rang, and Louis walked over to the window and leaned his head against it, looking out at the smooth lawn of the campus five floors down, noticing idly the erratic shapes into which the gravel walks cut it, studying the shapes to see if he could find any pattern to them. He saw a young man going along one of the paths with a girl, hand in hand, their legs moving slowly in exaggerated unison. "Have you read the papers?" Louis said to them silently. "Sure," he answered for them,

"what are we supposed to do about it?" After a while he called to Lily without turning his head.

"How's my appointment coming? I've only got six hours and fifty-five minutes now."

Lily was still on the phone. "Louis Saxl says he has only six hours and fifty-five minutes to catch his train," she said into it. She laughed and put the receiver down. Louis turned from the window and as he did the office door opened and Dr Plaut came out a little way. "Louis, I'm sorry to keep you waiting. Come in, come in."

They talked mostly about what he might do, Plaut sitting at his desk, Louis in the straight chair beside it where he had sat many times before, Wisla walking around the room restlessly, sometimes taking part in the conversation, more often not. He has something more than ordinary on his mind, Louis thought; I wonder what they were talking about.

"Now if you were a chemist, Louis," Plaut was saying, "we'd call up DuPont or Eastman or Dow or somebody and have you signed up at thirty-five hundred or four thousand right away. But a nuclear physicist! The companies don't know what one is. Do you know how many chemists there are in the United States, Ed?"

Wisla grunted. "They are outnumbered only by the English sparrow."

"Well," Plaut said, "I can get you twelve hundred here, Louis, and I wish you'd take it. If only there were an instructorship. I do wish you could stay on here. Of course, twelve hundred—You're not married, though. Maybe you're not going to get married?"

Louis smiled. "I might."

"Yes," said Plaut. "What does a young man do, Ed? This is not an ordinary young man. This is what a Ph. D. was meant to be and seldom is. Honours at college and he did a first-rate job here, one of the best—third or fourth out of quite a good group. Fought a war, too. How long were you in Spain, Louis? Six months?"

Louis deprecated this with a shrug.

"Four. That wasn't anything."

"So what can I line up for him? A research fellowship here. A teaching job out in Montana—that's a western state, Ed—that pays six hundred more. And a couple of odds and ends that are no better."

"The English sparrows shall inherit the earth, is it not so?" said Wisla. "Why not stay with us?" he asked Louis.

"Mr Wisla." Louis thought of saying, "to begin with, I don't know. I have not been home in two years, although what can that mean to you who had to leave your home and your country both for good? But I am going home to reflect on the two questions of Hillel: 'If I am not for myself, who will be? But if I am for myself alone, what do I amount to?' I want to feel a small town again, my own, and sit on the porch of my family. And I must give my father the opportunity to take me into the family business, an opportunity which I shall refuse, as he knows, but it cannot be done by default. And possibly there, from a thousand miles away instead of an inch, I can discover why I do not marry the girl I love. I want to find out why I am leaving, and maybe I will when I have left. As for the twelve hundred dollars, it is not much but it is not the reason."

But he said only that he had not been home in two years, that he wanted to spend some time with his family and himself, that he would hope for something better to come along.

Wisla listened politely, nodded his head in agreement, and walked to the window, turning his back on them.

"Excellent ideas," he said to the window. "Why do the good people always have to have these good thoughts? The dullards stay for their twelve hundred dollars. If they don't become heads of departments, why, they may go on to discover new elements. How many neutrons will a certain panel of that stained-glass window in the chapel release under fission? A trivial matter, a problem for dullards."

Wisla turned away from the window and began walking back and forth, but still he didn't look at the others.

"It is a funny thing how the real prime unknown always sells itself so cheaply. It does not show even its ankle for large sums

of money, say ten thousand dollars. Maybe at most up to the knee for six or seven thousand dollars. Just a titillation for the rich persons, not the real thing. And the little dullard with only two thousand dollars—if he spends it all for this—why, for him the pleasures of a rounded thigh, possibly from a distance. At least the promise of pleasures. But for twelve hundred dollars, that very minimum of sums, that will hardly keep a man alive—oh boy, oh boy, she stands up naked and waits to be taken!”

Wisla suddenly turned upon them, looking from one to the other with the utmost seriousness. Then he laughed loudly, walked over quickly, and slapped Louis on the back.

“You mustn’t mind, you mustn’t mind,” he shouted. “It’s a funny joke.”

He laughed some more, then stopped, then moved back to the window.

“All true, though,” he said.

Louis could think of nothing to say. But what a silly speech, not quite as amusing as it was irritating. He fidgeted in his chair and looked inquiringly at Plaut.

“Mr Wisla would like a few hundred thousand dollars to advance some projects dear to his heart,” Plaut said. “The money not being at once available, he has taken to exalting poverty. This is a phenomenon of a sort frequently observed among religious mystics, disappointed physicists, Austrians, and other such.”

Wisla said nothing. Plaut got up.

“Also he’s trying to win a war we aren’t yet in.”

Wisla stirred and muttered some indistinguishable words.

“As an old warrior, Louis, what do you think? Is this the beginning?” Plaut asked.

“I think so,” Louis said.

“Hah!” said Wisla.

“You think England will fight?” Plaut went on.

“Yes.”

“And what then?”

Wisla turned toward them, speaking as he turned.

“What this *diseur* means to ask is whether this war will

spread to include us, you—will the Americans get in it?"

What *is* the essence of this? Louis thought; this is only the echo of it. He felt as though he had walked in on a private quarrel, and he felt correspondingly self-conscious. But he said yes, he thought the United States stood a very good chance of getting in it.

"Maybe that will take care of my future," he added.

Plaut discounted this; Wisla seemed not to have heard it.

"Of course," he said, "you may get in too late. Even of course, you may be too late right now. Should we thank the complacency of some unmentioned individuals for that?"

He bowed stiffly at Plaut, smiling too; it was impossible to tell whether he superimposed humour on indignation or indignation on humour.

"You are very bright, Mr Saxl. Plaut tells me so himself. Also I know it. Also he says just now that you fought in Spain. That I didn't know. You went over and joined up, ha?"

Louis said it hadn't been like that. Right after he'd graduated he'd gone to a scientific conference in Barcelona—his grandfather had left him a little money for his education, he felt it necessary to explain—and he had been there when the war broke out. He had stayed, and staying meant doing something; but as for real fighting —

"Yes, I see, I see," Wisla said. "You saw the Germans there, of course."

"No."

"No!" Wisla exclaimed, so indignantly that Louis laughed.

No, he hadn't seen any, but he'd heard a good deal about them, and he had seen their planes; they were there, all right.

"Well, it will do," Wisla said. "Mr Saxl, tell me what you think. If the Germans march through Poland and then march through France and then take England—invasion, surrender, bombings, one way or another, all is possible—she will then have all Europe, yes? And suppose she then has a means for laying waste this country. She would not hesitate to use it, would she, do you think?"

It was a preposterous marshalling of assumptions, Louis re-

flected, to reach a point that recent history had put pretty well on the record. And why am I the centre of all this attention? he thought. But the question had a seriousness, almost a pathos, as Wisla said it, and Louis answered him straightforwardly.

"No, I don't think she would. Nor any other country, if it stood in her way."

"Thank you very much, Mr Saxl." Wisla bowed. "Your answer is uncomplicated. Perhaps only among ourselves, it is even obvious. Do you know the President?"

"As the object of all this irony," Plaut broke in suddenly, "we thank you for the performance." He laughed with great good nature. "Come on, Ed, we all love you, relax. And Louis—as for you—don't you get obsessions about war putting an end to your work." He put an arm across Louis's shoulder; they were all standing now. "You've got a rare quality, boy, really you have, you know. Ed, you should have been at his orals—why aren't you ever at the orals, by the way? Well, no matter. But Baillie got this young fellow talking about absorption effects in counting those soft betas, and our boy was doing fine. Then old MacGregor—I don't think he knows a damn thing about the subject really—anyway he threw in a question about end points, and had Louis taken some perfectly elementary correction factor into account. Old Mac just had to prove he was there."

Plaut chuckled benevolently; all this time he had his arm around Louis's shoulder and by now they were pacing around, pacing in unison, and Louis thought of the girl and the boy on the campus walk.

"Well, you should have seen Mac's expression as Saxl told him; I could hardly follow it myself. I must say he could have answered the question in ten words and he took ten minutes; never heard him say so much all at once before, but you know what orals do to people. Anyway you were good, my boy, and you're too good to lose. If I were you I'd do just what you're doing. Sit around at home for a while, think about things—it's a necessity if you can afford it, very desirable if you can't. And let me do a little more work on you. There may be some things

—particularly if you're not pressed to take something right away—there may be some things— But you keep in touch, hear? You write before you take any steps."

Plaut took his arm away and stepped back a little.

"Well, Louis—" And he held out his hand.

Louis and Wisla left the room together. But Louis stopped to say good-by to Lily, and noticed as he did that Wisla went right on, out into the corridor, with no word at all. And even as he started toward Lily's desk, Louis wavered; maybe he could have walked on a way with Wisla; Wisla was a great man; it didn't really make any difference about this good-bye. His snobbishness shamed him and to make amends he confronted Lily with such familiarity that she looked at him with surprise. He pumped her hand, blew her a kiss, and then, suddenly thinking he could catch up with Wisla, he ran out the door. Wisla was standing there.

"I was thinking. You go to Chicago on your way home, yes? You are from Illinois?"

"Yes, I—"

"You must know Neimann."

"Well, I know who he is, of course."

Wisla nodded as though this proved his point conclusively.

"Of course," he said "So you call him in Chicago. Tell him I said so. He might know about some things better than that Montana place. So—" Wisla grinned, bowed, and held out his hand "—happy days." He turned and walked rapidly down the corridor. Walking slowly, Louis followed.

From his office window, five floors up, Plaut saw Louis emerge from the building and watched him as he set off across the campus. But Plaut was thinking of Wisla's and related matters; in the shoals of his mind a random driftage joined and fragmented and joined again behind the motionless plane of his unlined face:

—really what a childish performance; no harm done I suppose but no purpose served certainly;

and no one more interested than he is about keeping this uranium business quiet; not a word, no publication, he says;

well the journals are full of it thanks to that article of Joliot-Curie's; a high-school teacher could keep up with it now if he really wanted to;

what a stink Wisla raised over Joliot's publishing and not just Wisla either I have to say; of course Joliot had a right to;

I wonder if he's a better physicist than his mother-in-law was; who was it, someone was saying that Einstein said Lise Meitner is too; if that is so I've missed it;

Lise, a pretty name;

Rutherford was the giant; what a man; a country that can produce Rutherford and Newton and Churchill too is in no danger;

the British know more than we do about this and I suppose the Germans most of all; Wisla has a point of course;

we've got men as good as Weizborn though; Ottoberger is first-rate but a conceited ass too if you ask me; he's impressive but how can you like him;

what Wisla wants is impossible; I don't think anyone's isolated more than a microgram of 235 and he's talking about pounds;

he's a very clever man; these Germans and Austrians and Hungarians, what accounts for them; but I wonder how much he's thinking as a physicist and how much as a man who had to leave his country; that must do something to you; I just plain don't feel quite easy around the refugees;

we'd need tons of moderator too, tons of it, and purified beyond anything ever just to try for a chain reaction;

$93^{235} \rightarrow 94^{235} + \beta^-$ ;  $Z^1/A$  is big enough then; I wonder if Bohr is really right and if right practical beyond microscope quantities;

if this if that if so-and-so; if Germany does this if England does that and if, big if, an explosive chain reaction is really possible; it may well be but my God the way Wisla's talking;

what is it about the refugees; sometimes they act like they own the place and sometimes like whipped dogs; it must do something to you;

goddammit they do know their stuff; old MacGregor twice as old and half as bright and he's better than anyone at Chicago except Neimann;



the trouble with me is I can feel the turns physics has taken in the last ten or twelve years but I can't devise them; the trouble is I never got beyond the routine mathematics of a physicist; I simply never had the taste for those creative constructions; nor the skill I guess;

there's an austerity to those constructions that strikes fire in a certain kind of mind; an economy and even an æsthetic though not necessarily much common sense; Whitehead said the crisis in physics has come about because theory has outrun common sense and he's got something;

but it's not only the kind of mind; no American at least stands much of a chance getting anywhere in theoretical physics unless he got most of his training since 1905, unless he's under thirty-five or so now; of course the giants usually do it in their twenties;

there wasn't any theoretical physics in this country before the World War always excepting old Gibbs of course, and the great theoretical discoveries still come from abroad;

they come with the abstractors like Wisla and they'll be picked up here by the kids like Saxl, unless we get a war to turn us all into experimenters and mechanics;

the Americans are on top there; the few Nobelists we've had have been mostly experimenters; I guess Oppenheimer at Berkeley is a really first-rate theoretician though; so Lawrence gets the Nobel this year for straight experimental work; how does Berkeley do it;

the theoretical case for an explosive reaction is impressive but the amount of plain mechanical work that'd have to be done is prodigious; it seems like a fly moving on the wall could throw things off before we could come out at the other end;

heat maybe; explosion what—possible probable barely possible impossible;

what a hope; Einstein stated the law thirty-five years ago but Chadwick found the neutron only seven years ago;

of course Rutherford postulated it;

Einstein says a bomb is, what is the word he used: conceivable; I really doubt it and Wisla is nuts anyway; even Roosevelt

won't hand out that kind of money for a chase like this; I know what the Navy was thinking when Fermi tried to get it across to them: longhair stuff; very interesting they said; keep us informed; no money;

Fermi is really a marvelous person; so's Wisla but the things he says;

an erector set is a legitimate prime concern of a boy who is using his mind but the manufacture of plastics is not a legitimate concern of a grown man who is using his mind Wisla said; why did that infuriate me so;

I heard Baillie tell that trustee what's-his-name much the same thing but the old boy didn't know it;

Wisla's too tense;

millionth of a gram hell, more like a hundred-millionth—

And with the thoughts bobbing and shifting in the shoals of his mind, Plaut focused on Louis again, standing now in the middle of a grassy place looking around him. He's bright, Plaut thought, and a really nice kid too; if this thing should actually go through we'd need a hundred like him; I suppose I could get him an instructorship but Lord it would take a push and there just isn't time for everything; if only he weren't a Jew; and mixed up in that Spanish business to boot.

From below Louis looked up, saw Plaut at the window, and waved. Plaut waved back, smiled and nodded, and stood watching while Louis walked on a little way, turned the corner of a building, and disappeared from sight.

### 3

Theresa had on a pink dress with a flouncy ruffle at the throat, and a wide-brimmed straw hat. She stood by herself on the street in front of the restaurant where she had arranged to meet Louis at one o'clock, and it was one o'clock. The oppressiveness was gone from the air; it was fresh and charged as it had been when

they had gone to the World's Fair a few days before. The street was a busy one, only two or three blocks from the terminal. She should have gone inside; instead she stood, feeling gay with the activity of the street, enjoying the looks and almost forcing the smiles of men passing her. She did not notice Louis until he was at her elbow, whereupon she caught his head between her hands and kissed him, and laughed at his self-consciousness.

Because the day was special they had a split of champagne with their lunch, and drank to each other, still gaily, each relieved that the other did not try to fit words to the gesture. Louis told her how nice Plaut had been, and tried to imitate Wisla for her; they wondered together what the situation might have been that Louis had interrupted; and so they talked as the gaiety subsided, and then slowly sifted out of them.

After an hour or so there was no one else in the restaurant except three men at the bar near the front door. From the back Louis and Theresa could hear the drone of their talk, about baseball mostly and a little about the war news, all in familiar words strung like beads on a single inflection. Theresa grew panicky as she sat there silent, with only this dull trickle into their ears from the other end of the long room.

But after a while they left, and went out into the street, and the noise and the business of the street washed them and polished them. Inconsequential talk that cost no effort came back to them; they scrutinized shopwindows and watched a man opening oysters in the window of a seafood bar; they shouted aloud together when an elevated train roared over them, and all the time they held each other closer, varying and giving a kind of cadence to the pressure of their interlocked arms, and each felt the movement of the other's legs, regular y, insistently at every step.

They walked around the streets near the terminal for half an hour, and it was nearly three thirty. They had planned things the worst possible way. For an hour and a half remained until the train left, and their nerves would tighten too tight and their hearts tire from beating too hard before that time was up. This couldn't go on for an hour and a half, but neither could any-

thing else. Still they walked; stopping at windows, studying automobiles and wristwatches and lingerie and books, looking and turning away, saying words that now came hard again and meant nothing at all. They stopped looking at each other, and even relaxed their arms, but not wholly, and the simple touch was enough for the flow of feeling that held them. At a crossing Theresa stepped forward into the street and Louis, his eyes upon a car, drew her back and half swung her round. Her lips parted and he felt the hardness of her breasts against him as she brought her face up to his and kissed him. A dozen people watched, and Louis was self-conscious again, but this was only one of the things he was, and so they stood there motionless for a moment. Nobody knew quite what to make of it; plainly their passion was too advanced to be smiled at easily. Some looked and some looked away, and they made a raw intrusion at the street corner.

They should have gone to a hotel room, but neither of them was accomplished at things like that. At a quarter after four they were in the station, tired of heart and mind and body, close to irritability, each seeking desperately for a word or an action to keep things from ending this way. They opened their ears to the chatter of the station crowd, searching instinctively for something beyond them, some meaningless, cryptic snatch out of an unknown mouth to help them re-focus their feelings. But they had gone too far within themselves for a random word to reach them, or to serve that purpose if it should.

At four thirty the travellers began to assemble round the gates to the train that Louis was to take, and they went to the cloakroom to get his bags. He had two and he carried both of them while Theresa carried newspapers and magazines and a big bag of candy corn she had bought him as a joke. They attached themselves to the crowd and after a while the gates opened, sucking them all slowly out of the great vaulted concourse through the narrow passageway into the dark, low-roofed court of the ramps and the quietly waiting trains. Theresa wasn't supposed to go beyond the gates, but she asked if she might so charmingly that the gateman, with an understanding smile for

Louis, told her to go ahead. This little play, simple but at least complete, loosened their tensions; the excitement that always gathers with a moving crowd began to catch them up, and the sight of the train stretched out alongside the ramp at last forced them out of their complexities and frustrations, for these were simply too elaborate for the time remaining.

They found his car and put his things in his seat, then walked back onto the ramp, smoked cigarettes, inspected the other passengers, and talked quietly of a few things, none of them important. She patted his tie and he touched her hair under the wide-brimmed hat. He kissed her then, holding her tightly against him; and then the porters called out and people brushed past them into the train.

"Come back soon, darling," she whispered.

And so they left each other.

#### 4

For a hundred and twenty-five miles from New York's Grand Central Terminal the trains to the midwest run due north, along the flat edge of the Hudson River. The western windows look out across the water, first on the stately Palisades and then on the softer Catskills (where once roamed the light and bulky wolves that Darwin wrote about); they unroll a river traffic of barges and sailboats and freighters, and clusters of towns, an occasional castle, and numerous estates. This is the prettiest part of the trip, but the midwesterner returning home hardly considers his journey begun until this part is over and the train turns west across the river to begin its penetration of the continent. The fast trains leave New York, or used to, on a schedule that brings them to the turn at just about dusk of a late summer day. They usually pause a moment before crossing the bridge, and then roll slowly over it, from day into night, and out of the arm of the northeast into the whole great body of the land. They

stop again at once, for the Albany station, and the traveller may get out to put his feet on this firm ground, or he may lean against the train window looking at the lights sharpening in the city. In any case, for the traveller long away, it is here that the sights and sounds and smells of home begin to fill his mind again.

Louis got a seat in the crowded dining-car just as the train rumbled onto the bridge. It was nearly seven thirty, but in Georgetown, nine hundred miles away, the sun was higher by an hour, and his family, he thought, would probably just be sitting down to dinner, too. They would have his wire by now, his sister Libby would be asking questions. He stared out of the window at the station, hearing faintly through the glass the rattle of the baggage wagons, the calling of vendors, and the hiss of steam, but hearing closer his father's voice: "Well, son, it's not so bad here at home, now is it?" And his mother's: "If only he could stay here with us—I know he can't, of course, but—"

In Georgetown, Mr Benjamin Saxl locked the door of his office at his lumber yard, stood a moment gazing about from the top of the three steps leading to the street, and then slowly started off to his home, seven or eight blocks away. His mind turned on lumber, on his son's imminent homecoming, on the news of war, and on what there would be for dinner. He greeted and was greeted by numerous friends, themselves coming home from work, or sitting on their porches, or watering their lawns. They congratulated him on his son's success, for they had all seen the little item that his wife had written and he had phoned in to the town paper. They changed their expressions to say a few words about the war, citing the prevailing opinion here that it would be over before the United States could be drawn in; whether for better or for worse, or to what end at all, neither he nor they had much considered, for the reverberations that could be felt across continents and oceans moved more thinly in the prairie air.

They thought to themselves as he walked on that he was a

good man, deserving of such a promising son, and his solid figure and his bland clear face—only beginning to lose its firmness to his fifty-odd years—were a source of satisfaction to them. One spoke to another, watching him go down the street:

"You know, he never says a word about what's happening to his people in Germany."

"No, I've never heard him."

"It must be a burden to him, though. It must be a terrible thing to think about if you're one of them."

"They don't make them any nicer than Ben Saxl. I don't mean just for a Jew either."

It wasn't a burden to him, though. Precisely because it was a terrible thing to think about, he didn't think about it. His wife did. He knew she sent money occasionally to organizations in New York, to funds and appeals, but he seldom discussed these things with her. He thought Hitler a monster, as who did not, and felt sorry for the Jews of Europe and the Czechs, and now the Poles. But the virus and the tissue of these far-off happenings were invisible to him, and the Jews were as remote as the Poles. In this he was much like most of his neighbours; he was only expected to be different.

He nodded and smiled and felt, as he always did, his contentment in this hour of family gathering along the quiet street. A block before his house he came upon his daughter, a dramatic little figure pumping furiously on her bicycle to meet him. Her hair was black, her arms and legs were golden-brown, and she had on brilliant white shorts and an orange sweater. She was fourteen, but she looked a year or two older, and she was capable of acting much more than that depending on the needs of an imagination which the circumstances of her life fell short of satisfying. Today she was playing sister to her brother, and in the privacy of her room, before the mirror which knew her well, this role had produced overtones of his mistress as well. But now, in the street, she showed only a proper excitement together with an extra measure of devotion to her father, whose virtues were enlarged by the momentousness of the occasion. She called out to him that the wire had just come, that her

mother had only that moment, in fact, received it over the phone, and that she herself had computed Louis's arrival as twenty-one hours away. Wheeling her bicycle, dancing ahead of him, she led him down the street and across the lawn to their house.

That evening, after the dinner dishes had been washed and put away, the Saxl family gathered on the porch that ran across the front of the house and part way around one side. At the corner a swing hung by chains; three or four wicker chairs, little wicker tables, flower stands, and the like were more or less grouped in the vicinity. There was nothing else on the porch except Libby's bicycle, a broken rocker waiting for a day of repair, and some garden tools around at the side. Mr Saxl came out first, adjusted the largest chair imperceptibly, stood and gazed along the street, hitched his trousers up, and then sat down. In a few minutes Libby appeared, pensive and remote now; she had a kitten in her arms, and she stroked it gently and murmured to it. She sat in one corner of the swing and fixed her eyes on the ceiling. It was nearly dark. A screen door banged on another porch and a murmur of voices rose and fell away. Mrs Saxl came, stood by the door a moment, then walked quickly across to the swing. She was a large woman, taller than her husband and heavier; but her figure rose from small feet and slender ankles, which seemed too slight to support her and which lent a precarious, awkward grace to her movements. She leaned down to stroke the kitten and then sat, her hands in her lap.

A boy walked past and whistled, briefly and inquiringly. Libby turned her head, but said nothing.

"Isn't that the Armstrong boy?" her mother asked.

Libby shrugged her shoulders. "Will Louis go to war?" she said.

"Heavens! I hope not. I don't think so. I hope none of them have to." Mrs Saxl sighed, moved, and the swing creaked.

"He might be dead in a year," Libby said.

"Libby! Don't say such things!"

"Well, he might—if he goes to war."



Her father made a slight gesture, more felt than seen. "He's not going to war, child. It'll be over in a year."

"He went once."

"A very different thing that was. He didn't really—"

"He got hurt," said Libby.

"Yes." Her father lit a match and applied it to the cigar he had been holding all this time. The circle of the light touched Mrs Saxl's face; her lower lip was pushed up, a mixture of compassion and perplexity was in her expression, and she was looking at her husband. "Yes, he did," said Mr Saxl.

The fact of this hung over them for a moment, the cigar glowed, the swing creaked. Libby put the kitten down; it stood uncertainly at her feet, then took a few dainty steps and curled up beneath the swing.

"I've never seen a dead man," Libby said, and her voice was infinitely remote.

"What on earth has got into you?" Mrs Saxl demanded. "The day before your brother gets home and you've got him dead already! Why do you talk this way?" She was annoyed, and her voice rose, but she went on more calmly. "A lovely day and a nice dinner—we were all so gay then, you particularly—and now death and war. Oh, Libby, Libby! But we won't talk this way any more, no more now. We'll talk about tomorrow and what we're going to do. God knows we've got plenty—you not the least of us, I might add."

There was a pause; Libby neither moved nor spoke; and then abruptly her mother added:

"Besides, you have. You saw your grandfather."

"No, I didn't. I didn't look."

There was again a slight gesture from Mr Saxl. "Well, now, dear, you're not helping matters any."

She laughed—a rich, pleasant sound—and confessed that she was not. Libby snickered. And they did begin talking of tomorrow. Libby was going to make cupcakes. Possibly they might plan a surprise party. Should they call his friends? What might he want to do? What could they think of?

A girl walked past, stopped, and came back across the lawn to the porch, calling out: "Are you there? May I come up? Is it really true what I see in the paper?"

They welcomed her. Mr Saxl stood and sat again. Libby took her hand.

"It's so nice to see you, Alice," Mrs Saxl said. "Louis will be thrilled, I know. Isn't she a pretty girl, Ben? Now, you know you are. Louis always thought so, too. How's your mother, dear?"

Well, her mother was busy with this and that. They were thinking they might have a dinner for Louis. Would he enjoy it? How long could they hope he would stay?

"We're all scared, you know," she added, "now that he's a scientist. I won't know a thing to say to him."

"You feel quite sure about this war?" Mrs Saxl asked her husband later. He told her why he did, but there was nothing new in it to her, nothing very convincing.

"I'm terribly disappointed by the Russians. Despite everything, I thought—and now who knows what to think? I *am* afraid for Louis, Ben, oh, and for all of them. They're all babies. I'm just not so sure it won't go on, and spread—"

She was sure it would, but he had no defences and she didn't argue her point. There were many things which hung between them thus, unresolved but not acute.

"I just can't figure out what he plans now, he hasn't said a word to go on," Mr Saxl remarked; he had dismissed the war. "It would be a good thing if he would settle down, but I don't suppose Georgetown—"

He did not know what to say for sure; his son had grown away from him. And what did a Ph. D. do? Teach? Would he teach? Could he live by it? If not? Might he still come into the business? They would talk, one day soon. What would he say?

"I wonder if he's thought about the state university. They say it's getting better under the new president. I used to know—I wonder—" And finally: "It's getting late," Mr Saxl said.

He looked at his watch, craning to see it in the glow from the lamp in the living room. "Nearly ten thirty—well."

He came over to her and stood before her. He yawned and scratched his side, stood looking down at her, reached out and patted her cheek gently. "Ready?" he said.

Inside she stopped at the radio, turned it on, and moved the pointer across its dial. But the news was not on yet; broken fragments of music, singing, talking, laughing came out as the pointer slid along. "How long till the news?" she asked him. He studied his watch again. "Six minutes—seven minutes." She saw no interest in his eyes and turned the radio off. "We'll get it in the morning." "Yes," Mr Saxl said, "we'll get it in the morning."

After the train left, Theresa wandered across 42nd Street, feeling very forlorn and indecisive. Finally she went into a theatre and sat motionlessly inattentive through a mystery movie, a newsreel, and a cartoon. On the street again, she thought of dinner, started into a restaurant, and suddenly lost interest. She stopped at a frankfurter stand instead. She watched the electric sign on the Times Building for a while; the letters flashing across it told of German successes in Poland, of British cabinet meetings, of baseball scores and the weather. Much of it hardly penetrated her consciousness and what did depressed her more. A man spoke to her and she smiled and let him talk to her out of loneliness; but he was callow, had nothing much to say, became wary of her openness and dull before her abstractedness, and soon moved on; she hardly noticed when he left. Then she saw a large sign advertising the movie of *Wuthering Heights* and suddenly decided she would go home and read the book. They had read it together not so many months before, bits at a time, lying on the bed together.

When she got home she sat for a long time leaning against the window, watching the life on the street, even before she turned on the light. Then she undressed, found the book, and laid herself tightly on one side of the daybed, leaving room for him if he were there. But when she tried to read, the words

slipped past her, meant nothing, or repeated themselves over and over. She flipped pages back and forth, seeking a place that would hold her. And so she came to those terrible words:

"My fingers closed on the fingers of a little, ice-cold hand! The intense horror of nightmare came over me: I tried to draw back my arm, but the hand clung to it, and a most melancholy voice sobbed, 'Let me in—let me in.' 'Who are you?' I asked, struggling, meanwhile, to disengage myself. 'Catherine Linton!' it replied shiveringly . . . 'I'm come home; I'd lost my way on the moor.' As it spoke I discerned, obscurely, a child's face looking through the window. Terror made me cruel; and, finding it useless to attempt shaking the creature off, I pulled its wrist onto the broken pane, and rubbed it to and fro till the blood ran down and soaked the bedclothes; still it wailed, 'Let me in!' and maintained its tenacious grip, almost maddening me with fear. 'How can I?' I said at length. 'Let me go if you want me to let you in.' The fingers relaxed, I snatched mine through the hole, and stopped my ears to exclude the lamentable prayer. I seemed to keep them closed above a quarter of an hour; yet the instant I listened again, there was the doleful cry moaning on! 'Begone!' I shouted, 'I'll never let you in, not if you beg for twenty years.' 'It is twenty years,' mourned the voice: 'twenty years. I've been a waif for twenty years!'

When she finished, her fingers were gripping the book so tightly that she could hardly move them. Love, loneliness, pity of herself, and the hysteria of accusation swirled in her and made her dizzy. Then she dropped the book and burst into tears.

After a while she got up from the daybed and sat herself at her table. She could not have written to Louis out of the pure loneliness and before the tears, but now she started the letter almost with an excitement.

"How do I salute you," she wrote, "for in all our days and nights together we have never had to write. This is my first letter—darling? Shall I salute you that way, as I would if you were here? But I would do much more if you were here. With my hands I could tell you what I am feeling and thinking, and I would better trust your body to receive the message right than

your eyes reading. You have been gone so long, and it will be so long, however short it is. Shall I give you a chronicle of my days while you are gone? What do you want from me?"

She wrote on for several pages, stopping often to read over what she had written, or to look out through the window into the street. She was longing and chatty by turns, and at the end she put "Goodnight" and signed her name and sealed it all in an envelope. She couldn't resist putting a little "x" on the corner under the stamp, feeling like a foolish child as she did it. She went back to the daybed, sat on the edge of it for a while, and finally turned the light out and lay down. Words and pieces of her letter came to her and she rearranged them in her mind, pondering meanings and implications.

In the club car of Louis's train, moving out of the Genesee Valley towards Buffalo, the radio was scratchy and its information all but lost in the loud business of the train's movement. The eleven-o'clock news round-up came on and a man set his watch by it. Another went to the radio and turned the volume up; some people playing poker at one of the tables shifted expectantly, cupped their ears, and some held their glasses to stop the steady little tinkle they made. Louis sat by himself reading. He held the book before him, but he listened as the announcer told of German successes, of the destruction of Polish towns from the air, of the beginning of the bombardment of Warsaw.

This is what they practised for in Spain, he thought. It was remotely possible, he reflected, that on the sunny afternoon of September 19, 1906, from an anti-aircraft emplacement near University City in the western suburbs of Madrid, he might have kept one of them from flying on to Polish skies.

He had told Wisla that he had never seen a German while he was in Spain, but suddenly, out of the montage of pictures that the announcer's voice was making in his head, came a German face that he had seen and forgotten. This face belonged to the pilot of a light bomber that Louis and every other gunner in his sector had shot at and missed one day, had cursed, and

had reluctantly admired. He had detached himself from a group of three flying high overhead, and had come down in a great sweep almost to the housetops. And then he had buzzed back and forth and around for fully five minutes, slipping once in a sharp turn directly over Louis's station. He was close enough for Louis to see him, and he seemed to be rubbering out through the hood, like a sightseer. The guns were firing, but there weren't many, and most of them were old and inefficient. They fired blind, and hoped something would hit him, and nothing did. He left with a string of fancy rolls and a sharp spiralling climb and took that day's morale with him. The casualness and the control which combined to make the flaunting brilliance of the feat had left Louis feeling lumpish and inadequate, and he had a revival of the feeling now, remembering.

But, more than that, the feeling grew and became his response to all that the radio was draining forth into the car. The recital of the German advance, in the unreal cadences of the radio voice, against the clicks and rumbles of the train, made it seem that the whole German air force was performing a kind of gigantic barrel roll over Poland, dropping bombs incidentally, killing people and destroying towns incidentally, peering out at the scene with curiosity, and making all the right turns at the right time incidentally, too. This notion made him feel powerless, and angry again for the powerlessness.

At the Illinois State Fair in Springfield, years ago, he had once or twice watched barnstormers from flying circuses do their tricks, and had automatically searched within himself for the resources to perform them, and had felt inadequate at not finding them. He had left these exhibitions with the lumpish feeling, as though he had been tried and found wanting; even the exploits of characters in novels and heroes in movies sometimes gave him the feeling. He seldom felt the other way round, almost always the projection was too great for him, and always he tried to make it. As a boy he had been ecstatic on discovering from his grandfather's encyclopedia that Shelley, the greatest poet in the history of the world, had also been a chemist; he, Louis Saxl, had written poems, and he was going to be a

scientist of one kind or another, too, and he had felt uneasily that the fact and the intention were flaws in each other. But Shelley! The discovery had sanctified him for a moment, and then had taken away all hope.

From outcroppings of anger in the vein of the lumpish feelings he had often fashioned accusations. He was a romantic and a sentimentalist and would not ever outgrow his adolescence. Or he had too great an ego and it would end by destroying him. Or it was the reverse, he had no ego and was doomed to insecurity. But for some time he had not had this feeling; in his work it didn't come to him; it annoyed him now.

The news went off and music came on and conversation started in little islands here and there within the car, but none of it included Louis, who still held his book before him although he was not reading it. He sat so unobtrusively, and his expression was so diffident, for all his visions and feelings, that his immediate neighbours had ceased to notice him. Despite the tension and letdown of leaving Theresa, Louis had got on the train with some excitement at the prospect of that special privacy which comes from eating and sleeping and sitting alone and unknown among unknown people, a kind of delicacy for the spirit when it is willingly entered. The excitement had passed and he was tired. His thoughts moved in slow cycles from Wisla in New York to Neimann in Chicago, from Theresa in New York to his family in Georgetown, from his past to his unknown future, from Spain to Poland, and from night to morning. Midnight in America, he said suddenly to himself; which is dawn in Europe, he added, if only by the clock. The face of the German pilot came back to him, and hung in his mind more vividly than any of the faces before him. He got up and moved out into the narrow and shaking corridors of the cars, and walked through three of them to reach his own. He undressed, and a fever of loneliness ran through him and some of the ache of the afternoon with Theresa returned.

But then he found himself puzzling again over what Wisla and Plaut had been bickering about. It had had something to do with all the excitement over uranium fission, he could be

sure of that. You can be sure, he thought, that anytime you see two physicists together these days they're not far from that; it's the glamour theme of 1909, all right—and not without reason—not without reason. He turned out the little light in his cubicle, raised the blind, and for quite a while stared out into the darkness. It was perfectly possible, he reflected, that an awful lot more was going on in the fission business than was to be dreamt of by him; the fact was that the work of the last year towards a doctorate was not designed to keep anyone much in touch with anything but that. The nuclear isomers—now, if anyone wanted to know about isomers he would be happy to tell them. He smiled suddenly from the recollection of a silly fight he had had with Theresa months before, on an evening when he had been full of nuclear isomers and she had tired of them.

"Sometimes I think Ortega may have had a point," she had said abruptly.

"Ortega?" he had inquired warily, sensing attack, too doubtful of his own knowledge of the Spanish philosopher to trust Theresa's, at least then (he could concede now that he really had been getting stuffy).

"When he said the modern scientist runs the danger of becoming the modern barbarian," she had informed him with every surface evidence of objective interest in a concept above and beyond them both. "Because of the specialization his work gets him into—abstruse and intense, didn't he say?"

But they were talking politics more than physics, he thought, returning to Wisla and Plaut. Had someone heard something new about the German work on fission? There were all kinds of theoretical prospects, of course; my God! did they think, did somebody really think, had somebody done something—for now?

At the — Centre, one of several camps maintained by the French for those Spaniards who fled across the border at the end of the Spanish war, a man came out of a long, low, weather-beaten building, which seemed almost black in the faint light



of dawn, and walked slowly across to a little outcropping of scrub vegetation. Reaching this, he opened his trousers and urinated; he watched himself for a moment, but then looked up, first at the streaks of light emerging in the east, then over the bushes to the mingled weeds and rocks and sand that stretched out of sight to the Mediterranean. The sea was not visible.

After a minute or two a second figure emerged from the building and walked over toward the first. Halfway there, he called softly: "Gustavito? Is that you?"

"Yes."

The newcomer, a smaller man, said nothing, but continued on until the two stood together. They stood within a few feet of a straggly wire fence, which was intended to contain them and two thousand or so compatriots. Being unnecessary, it had been allowed to fall into disrepair; they had no papers, no money, no hopes, and who their friends were they no longer knew.

"What you were saying about the war news yesterday—I have been thinking it over from time to time since. You're wrong, Gustavito."

"So? What did I say?"

"You said nothing was going to happen."

"I said nothing *has* happened. Or, if so, not enough. In any event, what? What can you be sure of? Did the Soviets and the Nazis sign? Do you know it? Where did you hear it? And what else have you heard from the same places and the same people?"

"Everybody—"

"Don't bother. I believe there is a pact. I even believe the Nazis have invaded Poland. This is not nothing, to be sure. Thousands will die. Well—for what? If they are going to die, then there should be a war—not for people to die in, but to stop the killers. How else? Will they never get around to it?"

"You might ask it of your Russians."

"Ah, 'my Russians.' I am brokenhearted at that. Not at what they did, but that they had to do it."

"Gustavo, you said nothing was going to happen. That is what you said. Which is to say that the Nazis will take Poland, and

the English and the French will do nothing, nor the United States. But you—"

"The United States? Well, what do you expect them to do?"

"I—well, sooner or later, if it goes far enough, they will wake up."

Gustavo looked at his companion with open contempt.

"Do you really mean to say a thing like that?" He paused, staring at his friend. "I guess you do, despite everything. It beats me, but I guess you do." He sighed. "Good God. They slip it to the fascists, look the other way, do nothing—for years they do nothing, and now—and now. Do you think they have been asleep that they will wake up? God above, must you have it rammed inside you, twisted, turned, and broken off before you feel it? When do *you* wake up? Who shot your friends? With whose bullets? Bought with whose money?"

The other man, plainly, had endured such tirades before from his friend. He picked up a little stone and tossed it in his hand, looking covertly at Gustavo from time to time, saying nothing. And Gustavo steadfastly looked away.

"Despite your talk," the smaller man said finally, "I know these things as well as you. Who doesn't? Still, you have to forget the Americans who helped us, several thousand of them. And the Americans who were for us, several million of those. America has been lucky, so fortunate and far away. Young, too, innocents despite your talk. It is not so much a matter of waking up as growing up. That takes longer."

"Too long for this world," said the other, still looking away.

Both of them noticed at once the sound that suddenly came from the sky. They looked up and finally found the plane, too high to identify. It came with the sun, but the angle of its flight cast no glints. It was gray and white against white and blue, high, steady, and inexorable. They followed it with their eyes as it passed and until they could distinguish it no longer, and they listened to the drone until it died away. Neither of them said anything during this time, and the smaller man tossed his stone up and down, up and down, even while his eyes were lifted.

"Well," the smaller man said finally, "there was a young fel-

low I came across right at the beginning. He was an interesting example of what you forget, because you met some too. I don't think you met this one. His name was Saxl. He didn't come for any purpose except to take part in a convention of some people, scientific people and so forth, including Professor Narvaez. Certainly you know Narvaez, he's a great man, or was. I used to see him often, although I didn't know him. His left arm was shorter than his right, do you remember? But he was a great man, everyone agreed he was."

"Who didn't know Narvaez?"

"Well, when the bastards started, this convention was going on. This young fellow Saxl wasn't the only one there from other countries. He was a student, of no standing, but it was an important convention and there were doctors and professors and so forth, from France and England, too. Well, you know, most of them left. They could then, for a few days. But this Saxl I'm telling about, an American, an innocent too, didn't go away although he could have. He was about twenty, maybe nineteen, a nice-looking young fellow. It's sometimes hard to tell how old Americans are. Well, he stayed and helped fight the bastards. He didn't have to, he could have left, but he did. Do you know what he did?"

Gustavo had sat down on a little outcropping of rock. His legs were spread apart, his fly was still open, and a patch of underwear showed through. He seemed wholly listless now, was still looking away, across the fence and the sand leading out to the sea. But he answered.

"What?" he said.

"Well, he became an anti-aircraft gunner. Just imagine that. You must understand this, like you used to understand such things. You would have liked this young Louis Saxl, it's a pity you never knew each other. He was not a very talkative fellow, and for that matter he was not a very good anti-aircraft gunner as it turned out. Still, he made one or two hits, or may have. It's hard to tell about that, as you know. Some of us thought he shouldn't be doing this, I don't mean because he didn't hit many—most of us had to learn—but he was a scholar really, trained

for being a scholar, and this was not the best way to use scholars even at the time, though we had to, yes, though still if it could be avoided— Well, he said an interesting thing, because this was discussed from time to time, he said, and this is just the way he said it, he said: 'Not so, I've got a stake in this laboratory, too.'"

"Laboratory? What laboratory?" Custavo asked, not looking, still looking away.

"Why, the laboratory at the university. Didn't I tell you? The convention was held there. It's gone now, Gustavito."

"Oh. What was this fellow?"

"Well, I told you, didn't I, he was a chemist or possibly a physicist. An American physicist."

"Yes, well, what's so special about what he said?"

"For a young American not more than twenty-two at the most? He didn't come to be bombed, didn't know anything about it, as I learned. Still, he grew up very fast, almost overnight you could say. You see—"

"Well, what became of him?" Gustavo interrupted, still looking away.

"They dropped one near by and he was hit by a piece of it. He was in the hospital and then they made him go home."

"Who made him go home?"

"The Ministry of War, at the suggestion of the Anti-Aircraft Command, University Sector, at the suggestion of Professor Narvaez and four or five others."

"Why? Couldn't he fight any more?"

"Well, not for a while, but that wasn't the reason. The reason was he didn't belong here. He should be doing his work, as Professor Narvaez said. Also, he might be able to tell them in the United States—"

"Did he?"

"Well, I don't know as to that. But that isn't the point. What with everything— You knew many Americans like this, too."

"Yes, I knew some," said Gustavo. "I've seen bombs that didn't explode and bees that didn't sting. I am pleased every time these things happen, but also I am rotting here and Spain is rotting

there—" he waved his arm—"and idealistic young scientists are not stopping the bastards. No, nor their countries that trade with them either. That's for us to do, you and I, rotting here at the water's edge like fishes after a storm." He got up, but abruptly sat down again. "Oh, God," he said. "Lead young Professor Saxl away from here, will you, will you please? He was doubtless a very fine individual. But let me be here, let me be, I'll see you later on."

The smaller man stood for a moment looking down. Still holding the stone in his hand, shaking it around rather than tossing it, he moved off, walking slowly, towards the building from which they had come, a dirty grey now under the brightness of the morning sun. And the other one sat quietly, not looking after, looking out across the fence and the sand stretching away, as one sits in contemplation of mysteries and wonders. Then he reached in through his open fly, and began to move his hand in a methodical fashion.

For half an hour or more there was no further movement around the buildings. But finally people began to come out from them, men and women both, and some children, some running and hopping, some walking aimlessly. Gustavo's friend came out again, joining two or three others standing off a little from the buildings at the edge of a wide patch of stagnant water. He still had his stone, shaking it, tossing it, swinging his arm with it as he talked. But the talk ran out. He tossed the stone into the water and it made a small splash, and ripples spread out across the greenish surface of the water while the little group stood watching.

Down from Buffalo the train rolled on, along the curve of the shores of Erie, and out across the flatland of the little one-street towns, all wrapped in darkness, all silent except for the ringing of the crossing-bells. In New York Theresa slept, but the fingers of her hand, palm down on the unused pillow, gently moved from time to time. In New York Plaut slept and Biscanti slept, but Wisla was awake, reading quietly under the lighted lamp

in his room with shared bath. In Georgetown the Saxls slept, and in the French camp the Spaniards stood as the sun rose higher. In the darkness of his berth Louis slept and was awake by turns as the train moved steadily across the flatland towards Illinois.

## 5

Three days after Louis reached Georgetown from New York, a letter came from Neimann:

Dear Mr Saxl: It was a pleasure to speak to you. You know about the plans for the University cyclotron. This will be quite important. There can be an opening for \$1500, I am sorry no more. Mr Wisla tells me you plan to go to Montana. I believe this will be more important. I trust you will join us and am sending forms for that purpose; they will be self-explanatory. Our term starts October 1. I will be most happy to see you.

Sincerely,

Conrad Neimann

So Wisla had got in touch with Neimann about him. He must have, for Louis had talked to Neimann only a few minutes over the phone between trains, and there had been no mention of Montana. But of course Wisla had talked to Neimann, or written him; it said so right in the note; he hadn't noticed it at first. As to why, no explanation would fit. The cryptic talk in Plaut's office the day he had left came back to him, but still it meant nothing. Heads of departments and their temperamental stars always had various complicated projects coming up; or had it been something to do with raising money? Heads of departments were always trying to raise money. It must have been that, he decided, feeling sure that it had been something else. And hence it could have had nothing to do with him, he concluded, feeling sure that it had. But what arrogance; Wisla hardly knew him,

Neimann knew him not at all, and his own department head hadn't been able to line up much of a job for him. It was just a fluke, just one of those things. How could there possibly be any hidden meanings to a \$1500-a-year research job? Should he take it? What should he do?

For his first week at home he did virtually nothing. The broken rocker on the porch offended his sense of order, so he fixed it. And from this, because one broken thing waits on another in houses that have been lived in long and comfortably, his mother was reminded that a pair of her reading-glasses needed fixing, too. The frame was loose at one hinge; it was a more complicated job than the rocker, and at this Louis worked one afternoon, sitting on the porch with his mother.

"This very beautiful science," he murmured, testing the strength of the hinge delicately with a cumbersome pair of pliers.

"What is that, Louis?" his mother asked.

"It is the flower of the whole of philosophy, and only through it can the other sciences be known."

"What are you talking about?"

"I am speaking of optics, vision, Mr Bacon's beautiful science. That's what he said. A rough epitome; behold." He held the glasses up.

"Why, my old reading-glasses, I never knew at all," his mother said, and looked upon him fondly.

"My boy has really learned a great deal, hasn't he?" she said, meaning every word of it and meaning, too, that she was a good deal more interested in the fact than in what he had learned. She wanted him to go on and tell her of beautiful sciences, and of all that he had thought and said and done in all the time he had been away from home, and she would have paid as little attention as possible to his words, the better to concentrate on his expressions, to study the shape of his head, to watch the movement of his hands, to remember as she watched, and to bring him back again to the things that she remembered. But of course her fondness and her wish defeated themselves by their force. He was not yet at ease enough with himself, or possibly would never be, to cope with such remarks as the one she had just made; he fell

silent in the face of them, or looked at her exasperatedly, or at best made a joke of them and then fell silent anyway.

In the evenings, on the porch, the talking was easier, and a little could be done of the impossible reconstructions. In the dark the words were more important and so either they were not said or they were said better. To the creaking of the swing and the soft blend of leaf sounds and other voices on other porches, Louis's rapt audience learned, in bits and pieces, enough to give them the impression of a picture of Theresa and Wisla and Mr Biscanti, of university life and life in what they understood to be Greenwich Village, of the study of the physical sciences as they were taught near the end of the fourth decade of the twentieth century, and of the immense distance to which circumstance and inclination had removed a member of their family.

"But you're still my baby," said Mrs Saxl. And in the dark Louis could answer this, gently enough, and go on.

"Are you very fond of her?" she asked.

"Yes," said Louis.

"I suppose you've thought of marrying?"

"I know I have."

"Are you sure it would work?"

"You mean because I'm Jewish and she's not, don't you? She has no feeling about that and neither do I."

"Yes," his mother said, "but that's not all there is to it."

"You and father wouldn't object, would you? It's not as though we're any of us very religious."

"Well, I for one can't answer that," she said. "I've never met her, you know."

"You know what I mean—I mean in principle."

"I can't tell you, son. I've known marriages like that to be bitterly unhappy—you remember the Ernie Pennocks, Ben, it was the other way round with them but it's the same thing. Still, some work out, some do. It depends on the boy and the girl, but oh, I don't know—many things besides that."

"But if he loves her?" Libby inquired.



"Oh, dear, we shouldn't be talking like this in front of Libby. Go somewhere, Libby."

"You've been living in New York a long time," she went on. "Things are freer there. I suppose what other people think may be less important where you have so many other people. But you've got to think a long way beyond that, to different places and people of all kinds."

And once when Mr Saxl and Libby were not on the porch with them:

"Louis, tell me, you've lived with this girl, haven't you?"

Louis sat silent for a moment, and then smiled across at her.

"I'm sure you aren't shocked by that, and I guess you know it."

"You've never told me, how should I know it? You've really told me very little about this. Louis, are you being fair to this girl?" He made no answer to this; his mother studied him a bit, sighed and went on. "Besides, I am shocked, at least it's nothing I've ever run up against before, and I can think of some people here in town—heavens, if they knew! You haven't told anybody, have you? But they're sure to hear, sooner or later, and it makes me sorry for the girl. Men aren't hurt by things like that, but it can come up to strike the girl ten years later. I don't think you've thought about that and I think you should."

But on this subject the talk did not progress far and was never satisfactory. Nor was it on the subject of the lumber company. From time to time, in the guise of reporting on events of his day, Mr Saxl would raise questions about the business and ask Louis for his opinions; or would tell a story to illuminate some aspect of the business which seemed to him to hold particular interest. In simple fact such attempts on Mr Saxl's part were the pre-ritualistic ceremonies for a ritual that would have to be gone through but which both he and his son knew would be fruitless. Up to seven or eight years before, Mr Saxl had assumed without question that his son would one day, in proper time, come into his business with him. He had doubted it progressively through Louis's college years, had known it would never be at least since the last of those years. had never said a word about it in all this

time, and yet even to this moment had not once thought that it wouldn't have to be gone into, formally and officially, sometime. It was a stage of life, coming just before or after marriage in the sequence which began with birth.

But in the first days after Louis's return home the subject was only approached; or, rather, shyly and tentatively laid upon the table where it could be seen and perhaps be picked up, until it might grow more familiar to both of them.

One afternoon Louis went downtown and ran into Chuck Braley, a high-school friend; they went into a bar, stood at it, looked each other up and down, and marveled at the predictableness of life.

"Set 'em up, Henry, bourbon for me." Chuck slapped Louis on the arm. "Remember old Doc Coleman? That's what he used to say all the time. Had a white goatee like in the ads. Well, boy, tell me all about it. You've been around. What's the dope on this war? Where do we go from here? You're set, aren't you, boy? A Ph. D. and all?"

Louis mentioned Neimann's letter and the salary.

"Fifteen hundred lousy bucks!" Chuck exclaimed, horror in his voice. "Why, so help me, you could beat that right here in the high school, I'll bet. You sure could with a company. Tell 'em to stick it up, Louis. Why, hell, you've got enough savvy to get two-three times that with a company. That's what Skip Seago did."

"Tell me about Skip. He was a very smart guy. We used to figure out life together."

"He was, he is, but so are you. He's doing OK for himself now, I'll say. Haven't you seen him? You used to be pals."

"I haven't seen a soul, Chuck. I've been meaning to, but you know. I don't think I've seen Skip in five years. Is he still with the gauge company?"

"The gauge company! Why, heavens, boy, haven't you even heard what he's doing? Say, you really gotta pay him a visit. How about it, boy, right now?"

And so Chuck went to the telephone and was back in a moment to announce that Mr Seago would be delighted to see them. A few minutes after that they were riding in Chuck's car out past the edge of town, where they would find—but as to that Chuck only made mysterious hints.

Where they would find, Louis thought—while Chuck gossiped about everyone in town, demanding no answers—the authoritative idol of his childhood, who, on quiet nights of sitting on the boulevard or just beyond the spread of an old cottonwood tree on the Seago lawn, had expounded many mysteries. Louis had thought of Skip many times in the years since. But in the week or so that he had been home he had not thought to ask about him. He was puzzling over this when Chuck poked him.

"Look up, my boy, look up. We are here."

"What is it?"

"A building. Read the sign."

Louis saw no sign. He saw an island of wondrously neat and landscaped lawn carved out of the cornfields which lined the road here, and far back at the end of the island an immaculate structure of white brick. It was so white that it shimmered in the sun; it was low and blocky and unbroken except for a single smooth line of windows that went round its walls in a belt of glass and steel. Dark green shrubs were set in a pattern against the lighter green of the grass just before the building's front. No door was visible. But as the car moved slowly past this incongruous little clearing, a group of cars parked behind the building came into view and Louis noticed for the first time a white gravel road leading away from the highway; it ran alongside the far edge of the lawn unobtrusively, as though the planners of the temple had resented and hence obscured this means of access. At one side of the roadway stood a small neat sign; white letters on dark green said: CABOT CHEMICALS.

"Cabot Chemicals," said Louis.

"Cabot Chemicals," said Chuck, "put half a million bucks into this little setup. I heard it's gonna cost five thousand a year just to keep the lawn mowed." He swung the car across the highway onto the white road, and the wheels crunched the gravel crisply

as they rolled over it toward the building. "Pretty fancy, huh? Well it ought to be. They don't tell you on the billboard, but this here is a division of Lowe & Waterson, which makes everything and more besides. It's an experimental laboratory; only finished it a few weeks ago. Sent a guy out from New York to head it up, and do you know who the executive assistant to the guy who heads it up is? Mr Vernon Seago, your friend and mine."

"I'll be damned," said Louis, while Chuck nodded approvingly. "What do they experiment on?"

"Plastics," said Chuck; and, turning the car in a graceful circle, he brought it to a stop beside the others against a neat white rail.

From the rear the experimental laboratory of Cabot Chemicals, division of the great Lowe & Waterson, Inc. and Ltd., disclosed some ties to the working world. There was a loading platform with crates and boxes on it; two trucks stood backed against one end of it, and from its side a railway spur stretched away in a sweeping curve, off through the fields on a manicured roadbed. And so artfully had the architects and the landscapers done their work that none of this was visible from the highway and all of it was muted even here where Chuck and Louis stood for a moment before walking over to the simple, handsome, dark-green door which was obviously the official entrance because there was no other. The door opened into a little room which held only cleanness; and this room opened into a larger room which held, along with some blond wood chairs whose green upholstery did not deviate by a shade from the green of the shrubs in front, a blonde young woman who smiled at them at once.

"Yes?" she said.

"Yes what?" said Chuck.

"You have an appointment with someone?"

"Well, no, not really, we came out to see you."

"I think I remember you. You're a friend of Mr Seago's, I believe. Does he expect you?"

Louis thought that it would have been fitting if a page boy

had come forth to transfer them from the lesser presence to the greater, but the girl did this herself after receiving assurances. They walked down a clean white corridor paved with dark-green linoleum, and at a plain wooden door they stopped.

"Here we are," she said. She smiled at them again. "You know, we haven't even got the name plaques up yet. They're sending them out from New York." She opened the door and spoke into the room. "Francy, the two gentlemen to see Mr Seago."

But Mr Seago himself came forth. He welcomed them warmly and took their arms and walked them past Francy into his own office, which was not large but was very blond and white and green and provided a view through four consecutive windows of the smooth sweep of the lawn, and of the highway glistening in the sun beyond, and of the corn which stretched away in strong, straight lines beyond the highway. They seated themselves and grinned at each other, asked appropriate questions and received the answers with animated interest, fetched up common experiences—there had not been many—and pretended they were constant. Seago, who had grown into a thin, poised but nervous young man with lines forming deep around his mouth (a doctor could have predicted imminent ulcers at a glance), was plainly proud of his place in the cornfield temple and unduly modest about it under Chuck Bailey's admiring prods. The talk ran on, while the talkers got up, sat down, walked about, looked through the windows, and smoked one cigarette after the other.

"Say, is that the truth," Chuck asked, staring through the windows, "it's gonna cost five thousand smackers just to keep the lawn mowed?"

The question seemed to annoy Seago. "Oh, hell! I don't know," he said. "It's a kind of advertising, so what?"

A small, framed card hung alone in a corner and Louis leaned over to read it. It said: "Never say a thing can't be done. You may be interrupted by someone saying 'I have done it.'" These words were printed; in ink beneath them was the name "Keith Jessup." Louis turned and found Seago looking at him with an expression so compounded of cynicism and sheepishness that

Louis laughed. "Sounds like Elbert Hubbard. Who's Jessup?"

"The boss," said Seago. "Forgive him his sins, he's really a bright guy, wonderful guy to work for. Engineers are a curious breed, particularly when they have to be executives. Is it the same with scientists, Louis? I should suppose it is. Plitudes and prejudices for one world, the world they don't really live in, and the most painstaking analyses for the other. Jessup—" But Seago stopped with that and there was silence for a moment.

"Yes, I suppose so," Louis said finally. "What's the analysis for putting all this way out here in the prairies?"

Seago smiled and shrugged his shoulders. "Looks strange from the road, out here, doesn't it? There's a lot of little plants like this in the East; one something like this up in the northern part of the state, too, not ours. I don't know—there are quite a few reasons, really. A company like this can afford to play heavy on hunches; there's no getting away from it, the big companies can get things done. There were all kinds of reasons. We're interested in some extractions from silage, some possibilities for synthetics. They might work out, might not. Well, so Lowe gambles. Anyway they've got a manufacturing plant near Chicago and the president of the railroad that runs through here is on the board—"

"There's talk around town," said Chuck, "that the Lowes might come down here someday with a manufacturing plant, might leave the city to get away from the unions."

"You amuse me. Who says the unions wouldn't come, too? The unions have been screwing Lowe and everybody else ever since Roosevelt got in. I don't like that guy, Louis. I suppose you do."

"I'm glad he's in now. Suppose it were Coolidge?"

Seago said nothing to this. He teetered on his chair, stared at a pencil which he was turning slowly in his hand, and then without looking up addressed himself to Chuck.

"I told Eddie Brickerhoff you were coming out, Chuck. He said he wanted to see you."

"OK, I'll give him a look."

Seago got up, smiled in a most ingratiating way, and walked over to the door with Chuck.

"You know where he is. We'll be in. I want to talk to a Ph.D. for a minute." He opened the door. "Dumb bastards like you confuse me." He waited for Chuck to go out, gave him a friendly little push as he did, and then went slowly over to the window.

"Chuck told me over the phone that you're looking for a job and that you got a bid from Chicago for fifteen hundred dollars. I don't know what you think about it, but I think a guy who plugs for a Ph.D., a real one like yours, not a thesis on ways to save steps in the kitchen—I think he deserves more than fifteen hundred a year and it's one of the tragedies of the twentieth century that he doesn't get it. I don't know why. I thought for a while I'd plug for one myself, and I know that's one of the reasons I didn't. I'll always regret it, but I'm going to regret it in comfort. Maybe we're made different. Maybe you don't mind. On the other hand, maybe you do. And I'm saying all this because first of all I want to find out if you do. Do you?"

Seago spoke perfectly easily, even smoothly, and looked out the window all the time he spoke; but with the last words he turned around and faced Louis. He was now wholly poised and the shadings of nervousness were wholly gone; it seemed to Louis that he had begun to speak as though from a score, which called for a turn at just that point. The gesture was dispassionate and pat but impressive, too, and Louis had the feeling that there were proper words and movements for himself written into the score, but he didn't know them, he felt lumpish again, almost as he had on the train, and he uncrossed and crossed his legs.

"Well, yes, I do, of course. None of the universities pays much, as you know. I'll never get rich, and if you mean do I mind that, why probably not, so long—so long—"

"I don't know that I mean getting rich, I certainly don't mean it to the point of extinction of all the things a man works for and really wants to do." Seago stopped and smiled—he had a warm, friendly smile—and then began walking slowly round the room. "How does one explain what he means, particularly to an old friend with whom he used to ponder the mysteries of life? You embarrass me a little, Louis, you know. I respect what you've been doing and what you are, perhaps I envy you some, too. I've heard about you from time to time—people think very

well of you here, you know. Sometime I'd like to hear about what happened in Spain, it must have been exciting, but— You're not mixed up in any Red stuff, are you, Louis? Some people got that notion. I told them—"

"Because I went to Spain?"

"Because you stayed there. But it's not important, you're not the only one who doesn't think so much of Franco. How old were you anyway—twenty-one—twenty—?"

"Twenty-two," said Louis, abruptly enough to attract Seago's notice, "but don't justify me on that count. I stayed because it was hard to get out, but once I stayed I was glad I did. And it wasn't Franco nearly so much as it was the Germans, the same Germans as now."

Seago looked at him but said nothing. There was something like compassion in his look, or so Louis thought, and the thought irritated him. I know what that expression means, he said to himself, I have seen it many times and it always means the same thing, it means I am being listened to as a Jew rather than—and it means right now that I am being "understood" about Spain.

"Which isn't to say," he said aloud, "that Franco isn't bad enough."

"I know how you feel," Seago said. "I don't blame you."

He resumed his pacing. "But it's not the important thing, Louis, not for anyone like yourself. You've just come through one of the best science departments in the world, kid. I used to know Plaut; he was at Urbana before he went east, and what he gives you you can sell. Don't give it away, don't sidetrack it, and don't bury it in a lousy fifteen-hundred-a-year trap that you'll never get out of." Seago smiled down at Louis in his warm, ingratiating way. "Words of wisdom from Uncle Vernon," he said, and then suddenly swung himself into a chair directly facing Louis. "There's one thing. Can I talk to you frankly about this one thing?"

Louis smiled to Seago's smile and nodded to his words. Let us talk frankly, he said to himself, but let us keep our powder dry.



"I don't really know too much about you now," Seago went on, "but I know you're a bright boy. I'd like to get you here. I've talked to Jessup about it already, a little bit, and he's interested, as he damn well ought to be. This place is his baby and he's on the make. So am I, for that matter, and I don't mind saying it. We've got to build up a staff and bright boys don't grow on trees. They'll send us some, but for every spot we fill ourselves—especially the technical ones—we'll all get double counts." Seago was up again. "I'm putting it to you straight, Louis, and it don't sound so glamorous this way, but it could be, it could be. This is a hell of a big company and this little piece of it is a good place to get a toehold—if it pays off. I left a very sweet setup at the gauge company for this—at no sacrifice—but this still isn't the big league. They'll bounce us if we miss, but if we make a show—"

He stopped by his desk, and silently, for a moment, ran a finger around the outline of a picture pressed beneath the glass. This is the forest primeval, Louis thought, watching him—or a toehold on it; oh, the cottonwood tree and the quiet lawn. Louis felt cramped; he shifted in his chair and noticed the slight crackle of paper in his coat pocket as he moved—Neimann's letter. He couldn't have said why he was carrying it, but the fact that it was there struck him as funny, privately funny in a way to make him feel fond toward the letter. *This will be more important.* He shifted again and looked inquiringly at Seago.

"Louis, if you want to make your work count, this is where the future is. With a big company, with the resources it takes for large-scale work, with the imagination to push it through. I can only propose, of course; Jessup disposes. But he sees how young guys like you can fit in. There's one thing. Now, take this the right way, kid. . . ."

*It was a pleasure to speak to you—this will be more important.*

"Jessup's a—well, he's an engineer—a very practical character, a little limited on some things, a little—I'll give it to you straight, Louis. Jessup shoots his face off about Jews. He can say some mean things. He doesn't know what he's talking about in things like this. And he doesn't really mean anything by it.

He'll like you a lot, I know. And you'd like him, when you get to know him for what he is. But he's apt to say something. Can you—handle that sort of thing, Louis?"

Louis reached into his pocket for his package of cigarettes, but when he drew it out he felt, without looking, that his hand was trembling, and so he put it back.

"Louis?"

"I understand, Skip. I know how it is."

Seago reached across and patted Louis on the shoulder.

"That's the spirit, kid, first things first. I just wanted to give you the pitch for when you talk to Jessup." Seago bent down a little and looked earnestly into Louis's face. "You're sure this is all straight, Louis? I want to assure you there's no feeling in this company, it's just this quirk of Jessup's."

"No, I understand." Louis rose from his chair, and now he stood in front of it. His eyes moved around the room, across Seago's face, to the window, to the door. Seago was saying something; he heard the sound of it, but his mind didn't shape it into words. Still he stood.

"—tomorrow, next day at the latest—"

"That'll be fine, Skip." It occurred to him that the building probably held, somewhere within it, some very fine equipment, and it would be interesting to see it. I want to get out of here, he thought.

"Anything wrong, Louis?"

He pondered these words for a moment without attaching any particular meaning to them, but then their meaning did penetrate, seeming, as it did, to bring to focus shifting planes of thought.

"No, no, I was just thinking. I won't be leaving for a while. No, Skip, I understand. We'll talk about it whenever— Shall we pick up Chuck?" He walked to the door and opened it, and they walked down the hall together.

In the car going back to town Chuck probed, circuitously at first and at last bluntly, to find out what their talk had led to. From answers that he judged evasive and from the quietness of Louis's manner, he concluded that Seago had decided not to

press the question of a job. He felt sorry about this; he wondered briefly if there might be any company policy against Jews and made a mental note to find out about that. He had hoped to learn from Louis odds and ends of information which he could introduce into his conversation, and so he was disappointed as well as sorry, but neither for long. He drove Louis right to his house, chatting and gossiping, and they ended the afternoon as they had begun it, for by then the warmth of recollection was coming back to Louis, too.

## 6

The next day was a beautiful day, just touched with the crispness of the fall to come, but warm and glowing and with the smell of earth and maturing corn in the breeze. Looking out through the window as he dressed, Louis decided that he must get out into this day; at breakfast he borrowed the family car from his father and invited Libby to drive over to the university with him. It was less than sixty miles away, not much more than an hour's drive on one of the smooth roads that stretched across this part of the state for miles with hardly a curve or bend. Half a dozen people he knew, from Chicago and from New York, were at the university, studying or teaching. He would spend a pleasant few hours with them and might find out something about what was going on at Chicago. Moreover, for the first time since he had left New York, he had a kind of homesickness for the trade talk of the university world; a terrible thing to confess to, he told himself, and he didn't pursue the thought far enough to relate it to the talk of the afternoon before.

The road to the university led out of town in the opposite direction to the road that Louis and Chuck had taken, but the countryside was just the same. Now and again there was a dip, a little hill, or a slow swelling of the land, but for the most part it stretched out flat as far as the eye could reach. The eye saw only rows of corn, on which the cobs were now beginning to stand

out from the stalks and the tassels were silvery; and widely separated houses and barns, regularly white and red; and occasional farmers standing or working among the assorted paraphernalia of their yards, with chickens running and pecking at their feet and the cows off behind them. There were only four or five little towns along all this road, each of which announced itself with a white sign giving its name and population: White Hall 1800 . . . Pleasant Plains 900 . . . Menard 2200. The road ran straight through them all, under an arch of trees for a few blocks, past old houses behind wide lawns, past shiny store fronts and dusty cars from the countryside parked in front of them, and then out through the pastures and the fields of corn again.

Libby was familiar with all of this, and so she tucked her legs up on the seat and steadfastly fixed her eyes upon her brother for the whole trip. She was as gossipy as Chuck Braley, twice as curious, and full of excitement at the prospect of seeing the university with such a distinguished guide. She sang a lurid song that she had learned at school, told stories about her teachers and her schoolmates, tried in various ways to find out more about Theresa, and shocked Louis time and again with a broadness of understanding of which he had detected no hint the last time he had seen her and which he was sure he had not himself possessed at fourteen. How fast they grow up, he said to himself, but then she would say something purely childish and confound him.

From a drugstore just inside the town Louis called the physics department of the university. He asked for Eugene Voss, a Hungarian two or three years older than himself who had left Europe as many others had since 1904, had worked in England for a year, and then had come to the United States to take his degree, which he had received a year before Louis. They had seen a good deal of each other in New York, although the opportunities for doing so had been circumscribed by Voss's boredom with movies, plays, social gatherings, or indeed anything at all which enforced silence or diluted conversation; besides, he never had a penny and was enabled to do his work only by virtue of a particularly liberal scholarship, one of a number

provided by a notably realistic board of trustees to tap the glittering vein of talent which had been flowing out of Europe. Voss worked hard and talked incessantly, handled laboratory equipment with painstaking care, and used his voice as the vehicle for any speculation or improbable hypothesis that popped into his head. These he would advance with the utmost seriousness, argue with skill, and cheerfully abandon when they came to nothing, moving ahead at once into others. He was a tall, gangling individual, sparse of hair, long of nose, and sharp of eyes, looking, in fact, exactly as he should have looked.

Voss was delighted to hear Louis's voice, made a lunch date for half an hour hence, and immediately wanted to know if Louis had seen the Bohr-Wheeler paper in the *Physical Review*. Louis had not. "A milestone," said Voss. "It came yesterday. Wait till you see it, fascinating, I'll bring it." Furthermore, he would bring along a friend, a magnificent fellow, David Thiel. They would like each other no end.

And so a few minutes later the three young scientists and Libby were jammed together at a tiny table in the corner of a crowded room which was a drugstore in front, an eat shoppe in back, and a meeting-place all over. Voices, dishes, and a juke box jangled and clashed in a deafening din; aisles between the tables had been obliterated; patrons and waitresses pushed and bumped getting back and forth. Libby was disappointed. She had expected they would eat in a hushed, high-ceilinged room with sweeping curtains at windows which would overlook tennis courts and young men and women studying with their heads together under oak trees. She ordered chicken salad, which, at fifty cents, was the most expensive item on the illegible, mimeographed menu, and prepared herself to study her brother and his friends while they talked in words she did not expect to find especially interesting.

Voss quickly bored her, as she bored him. He had greeted her very politely, shaken hands with her as though she had been a woman of thirty, and had at once put her out of mind. He had not the remotest idea of what to say to her and solved this problem by not letting it arise; and so it hardly occurred to her, since

she sensed his difficulty as soon as he did, that he was anyone to be spoken to or would say anything to be listened to. David Thiel was a very different proposition.

For one thing, he was lame. He walked with a heavy stick covered with knobby stumps, and the lameness seemed somehow subordinate to this stick; he was below average in height and rather delicately built, although baggy clothes obscured the contours of his body. The lameness, the stick, the slender frame in the loose clothes—each of these things rose to an impression in Libby's mind, each novel to her, each therefore interesting; but they receded before they were half formed as she shook hands with him and smiled in response to his smile. It was not a greeting smile at all, but warmth itself, his eyes confirmed it, and even, it seemed to her, the inclination of his head, a beautifully formed head, cocked slightly towards her as he leaned on the cane and held her hand.

He said to her: "You're wearing the colours of the university. How nice."

While he was saying something to Louis she reflected that this carried several implications, which she considered one by one, feeling pleased with all of them. She estimated that he was very old, probably even older than her brother. Still, she was quite as tall as he was, which at least confused the question of the difference in ages. Moreover, although she waited for his inevitable withdrawal into the caste which held adults, releasing them only for introductions and for occasional diversions with their youngers, the withdrawal did not come about. All the way to their table, and at the table, he continued to be aware of her existence, talking with her from time to time and even including her in some of the things he said to the others. She could tell that he was a little nervous when he spoke to her, but this was so common in male adults, outside of her father (and sometimes including him), that she thought little of it. Halfway through the meal she got around to a consideration of what it would be like to be married to him. Usually her considerations of marriage lasted no longer than it took to make a mental note of whatever conclusion she might arrive at: it would be all right, it would

not be all right, or it was a matter of indifference. Now she found this routine calculation persisting. And so, while she sat quietly, nibbled at her chicken salad, stole looks at her companions, and spoke when she was spoken to, in her mind she tested the sound of "Mr and Mrs David Thiel," tried to check off the letters of their names, wondered what he liked to do, and whether their children would be lame.

"It irritates me no end how long we all took to find out what it was we were doing," Voss was saying. "I remember those papers of Fermi's four and five years ago when he was in Rome."

"Well, there's plenty of excitement now," said Louis. "Still, who could have foreseen then—"

"Why, anyone might have foreseen. They did release the energy and free the neutrons then. It just remained for someone to put aside his preconceptions and take a good look at what they'd done. I blame no one—after all, I read the papers. It's an enormous thing to accept. But what's going on in Germany? How far beyond simple acceptance have they got? Believe me, that's the important thing to think about now."

"You sound a little bit like Wisla," Louis said.

"He is a little bit like Wisla," said Thiel, "except that he's a Hungarian and hence like nobody except another Hungarian. One theory is that Mars, an old and dying planet, wanted to keep tabs on what Earth might be up to. So they sent agents into Hungary a few millennia ago. That accounts for the strange language, unlike any other, and the strange and brilliant people who come out of Hungary all the time, like Voss here. And for some of the ideas they propose, provocative, brilliant, and hostile to peace on Earth."

Voss smiled through this, but he was impatient with it, too. He wanted to hear from Louis all the detail he could get about what the people in New York were thinking, doing, and getting ready to think and do. He seemed to assume that Louis would have sat down at once with all the array of physicists there and discussed things point by point. What was so-and-so doing experimentally? Had this possibility been thought of, had that one?

"Do you drive?" David asked Libby.

She looked at him to see whether his interest in this subject was real and decided that it was or might be.

"I'm not supposed to, but I have. I didn't today," she said.

"The thing that must be confirmed at once," said Voss, "is the extent to which the heavy isotope will interfere with the fission process in the lighter one. Who's doing what about that?"

"Dunning was getting together a sample enriched with 235. He was using a mass-spectograph to get it, but it was still in the works when I left," Louis told him.

"You should get your brother to bring you over to a football game," said David. "It ought to be a wonderful ride through the country on a good fall day. And then sitting in the stadium—"

"Some of the people here," said Voss, "think it won't be possible to get sufficient of the pure stuff. I disagree."

David and Libby began talking of her studies. And she told him about her science teacher, a Mr Harriman.

"He said when he was young he lived on a farm and used to have to drive a horse and buggy over to where Mrs Harriman lived, that was before she was Mrs Harriman. He said it got awful cold and so he put a newspaper under his shirt to keep him warm while he was driving, and he told us about this to explain insulation."

"Did Wisla say that?" asked Voss in great excitement. "Try to remember just what he said, Louis. Can you remember?"

"I tell you," said David, "next time you're in Mr Harriman's class ask him to demonstrate the Moebius strip for you, and just so you'll know in case he doesn't I'll show you how it works." He took a piece of paper from his pocket and tore a thin strip from it, and then creased and crimped the ends together after turning the length of paper once upon itself.

"Now, this strip of paper has two sides and two edges, like a good strip of paper ought to have," David said. "But run your finger along either edge or either side and see where you come out." And she began to do this.

"But, my God, Gene," Louis was saying, "you're talking about getting an explosive reaction with fast neutrons, and nobody



knows for sure we could even sustain a heat reaction with slow neutrons. Aren't you getting ahead of yourself?"

"The question is whether the Germans are getting ahead of ourselves. As of September first the theory of nuclear fission cannot be discussed without reference to politics and war. I should think that you, coming from New York, where so much of this work—"

Libby, having discovered that the strip of paper now had but one side and one edge, was smiling her appreciation of the trick.

"You don't happen to have a pair of scissors with you, do you?" David asked. "But it doesn't make any difference. When you get home you cut this strip right around through the center so you make two strips and see what happens. And then cut it again."

"What—" Libby started, but Voss's voice, raised and resonant, interrupted her.

"David," he said, "you are a very intelligent man, I keep telling you. Why is our friend, likewise an intelligent man, so blind? Will you speak to him? I don't like the quiet way he sits when I tell him the facts of life."

David laughed and looked understandingly at Louis. At the same time he took the strip of paper back from Libby and, with his table knife, began to cut it around through the center, slowly because the knife was dull and carefully so he wouldn't tear the paper.

"Gene is trying to explain to me," Louis said, "that this fission process is not a little problem for the laboratory like the classification of isotopes or chipping little pieces off atomic nuclei with toys like cyclotrons. He thinks—"

"I beg your pardon, that is all noble work, and I said no such thing. I will say it this way: work like that is pure work and we have come to something impure. And we must take care of this impurity before it spreads. I don't know whether the Germans made war when they did because the Russians got tired or betrayed humanity or whatever they did or had done to them; maybe the war started when some Germans like Hahn or Heisenberg decided they could get a chain reaction going. David, I tell Saxl that the important questions are not whether it is conceiva-

ble or inconceivable that fission could be turned into a controlled explosion—I say only that the Germans have made it necessary for us to find out. Nothing else is so important. Tell him, Dave."

David was on the last inch of the strip. The other three all watched him, Voss looking straight into his face, hardly noticing his hands at work, Libby looking at his hands, and Louis moving his eyes from one to another.

"All you seem to be asking," David said, "is for someone to agree with you that the work on uranium is now more important because the Germans have started a war than it was before—which is the same as saying that the work might have military possibilities. Well, it might. I agree with that." He finished his cutting, the strip separated, and one part fell to hang like a link in a chain from the other. Libby reached for it and he gave it to her.

"But you're really asking for a great deal more than that," David went on. "You want agreement that science, at least this branch of science, has come to be a detail of international relations. Nothing is so important to you as that the Nazis be stopped, nothing so fearful as that their own work on uranium may lead to discoveries which will make it impossible to stop them. And so nothing is so important as that we beat them to such discoveries. Which is to say—isn't it?—that you want science put on a war footing for a war that has not yet touched us. You don't want to say it that way. But that's what you mean, isn't it?"

"You can put it any way you want. But if the Germans move on from Poland to France, and if—"

His assumptions were so much like Wisla's had been in Plaut's office that the words sounded in Louis's ears like an echo; or, rather, like the reality to which Wisla's words had been an echo heard beforehand. For what Wisla had postulated in enigmas Voss said plainly.

"—there is really nothing in theory to preclude this possibility. And if the Germans achieve it they will use it. Do you doubt they have it in mind when we ourselves sit here talking of it?" He paused and sighed. "I have not myself computed the power of such an explosion, not precisely, but you can speculate

as well as I. We have created these enormous energies in the laboratory, in miniature, many times. Suppose it could be done with—what? an ounce? a pound?”

It's a heavy point for a summer afternoon on a quiet campus a long way from war, Louis thought. He wondered in how many places the point was being made.

“The difficulties would be enormous,” David said softly, shaking his head a little.

“That is not the point. The point is to find out.”

“It's a difficult argument to combat, the Nazis being what they are. And yet if your argument prevails—”

“Ah! It will prevail at the cost of science, huh? That's it, isn't it? Shall we say that science should be important enough to a scientist so that he shouldn't be the first to divert it? I have heard this somewhere. Is it that the science may be diverted in the end, in which case the scientist may then decide whether to go along or not? He thus keeps a kind of integrity, yes? I find this marvellous, what a thought! That the man of science, born and bred to probe unknown things at those lonely outposts of the mind—right?—should not let himself be found leading the way to prevent a spectacular threat to civilized life! Is the science more important than that? Have I quoted whoever I am quoting correctly, David? Am I being cynical? I am most earnest.”

There was no doubting his earnestness. His eyes had narrowed, his hands held the edges of the little table over which he leaned, and something in his expression, or some things, reminded Louis of both the purity and the impurity which he had mentioned a few minutes before. Louis was reminded of something else, too, but he couldn't quite bring it to mind; something in a wholly different setting and from quite some time ago. And with part of his mind he worried this while he listened; for his education, which he was supposed to be getting from David at Voss's plea, had been lost in their discussion. He glanced at Libby, who looked at him and smiled as if to say “It's all right, I'll be patient.”

“There is almost always the threat of war, and many of the threats are spectacular” David said at last. “You are quoting me, all right, also a great many other people you know, even your-

self, or at least some of the thoughts you have. In the end everything usable to war will be used in war. Still, you talk sometimes as though you forget it is always evil, and what it does to science and scientists, as well as farming and farmers, and families and children, is evil too. It may be a necessary evil, but then maybe not always—the necessity, I mean. As to that, you can quote me as saying I am not wholly sure. But I remember what Rutherford said twenty-five years ago when the British government asked him if he wouldn't quit working on atoms and go to work on anti-submarine devices. He said if he succeeded it would be more important than the war."

"His side won, so of course you can't tell for sure," Voss said.

"Yes, but he did succeed, possibly he was right, and all he did was transmute a little laboratory speck of nitrogen into oxygen. My God, what a lot has happened since. If you can be romantic with your lonely outposts, I'll be romantic too. We're seeing light on a drive that's been going on for half a century. I think this is wonderful, something really to be romantic about, and I hate to see it sidetracked or put into the hands of people who don't care or perverted by the makers of bombs. I hate to see anything like this happen if there's any remote chance of avoiding it."

He paused for a moment, and then went on, shrugging his shoulders a little and looking suddenly at Louis.

"Of course, this war may be different than Rutherford's war. As to that, Voss speaks with more authority than I do, and we have to listen although I hate to hear what he says."

There was a pause again. Voss did not take the occasion of the reference to say anything; he had been looking at David through all this speech, and now he looked swiftly at Louis and then looked down at the tablecloth, glanced up at Louis again, and again looked down.

"You know," David said, as if the thought had just occurred to him, "everything we find at those lonely outposts will turn up in a gadget someday, too. Think of all the gadgets brought to birth by Maxwell and then Heinrich Hertz seventy-five years or so ago. Movies, radio, television—I foresee a rich and terrible future

for television, but I'm still more interested in what Maxwell did, say the quality of what he did, and God knows I'm no less startled by television than he would have been. Well, let me resolve my views in a text, for which I shall quote, since everything has been said before. Mr Voss will join me. And the cries of jubilation will resound from all the craftsmen, for science will become the Diana of the craftsmen, and it will be turned into the wages of workmen and the wealth of capitalists and the glory of the military men, if you'll let me round out what Mr Huxley said."

He is giving a regular sermon, Libby thought, but what a pretty phrase, and she repeated it to herself: Diana of the craftsmen, Diana of the craftsmen.

"Medea of the military men," David said suddenly.

Voss shook his head with impatience. David turned the subject: what was Louis going to do?

He told them about Neimann's letter; and he told them about Wisla's intervention, but he only mentioned this because secretly he was impressed by it and he was afraid they might see he was impressed by it, which would have embarrassed him. Did they know of anything special going on at Chicago?

"Their department isn't so hot these days," Voss said, "except for Neimann. Now they're building their new cyclotron, they need cheap labor."

For the past two years or more in New York Louis's work had been mainly on the subject of nuclear isomers; for this he had required a variety of isotopes, which he had got from the cyclotron there, and in the process he had spent some dazzlingly happy hours with the cyclotron crews tracking down the inevitable and endless leaks in the vacuum system and in general lending a hand.

"Voss says you're an expert at fixing sick cyclotrons," said David.

Diana and a cyclotron, Diana on a cyclotron, Diana anna cyclotron, said Libby to herself.

"But the truth is," said Voss, who had given full weight to Louis's mention of Wisla, "Wisla's probably started recruiting

for his big project. I imagine he wants to keep you on tap."

"What big project?"

"Why, to get a nuclear explosive—what we were talking about. You know about Einstein's letter to Roosevelt, don't you?"

"No."

"My God, and you just came from the centre of everything! What were you doing, studying?"

So Louis learned about that and more about the fears concerning German activities than he had had any inkling of. For a moment the enormous irony of the situation dominated his feelings, and he listened to Voss with a slight smile that he could not control. Against all the elaborate assumptions—if this, if that, if so-and-so—if this cold and ruthless Nazi war machine rolls over great countries and they fall and if its masters realize this dreadful possibility—why, against all this, the detached Einstein, late a resident of Caputh, near Potsdam, with an apartment in Berlin, and not so long ago dispossessed of both, sits down at his writing-desk in his plain frame house in Princeton, adjusts his glasses over his clear eyes, and takes a sheet of paper and begins: "Dear Mr President—"

He was thinking, too, of a sheet of paper which he had found in a bureau drawer in his old room just a day or two after he had got to Georgetown from New York. This paper, put away among old mementos, newspaper clippings, even high-school themes, had contained a poem which he had written in that room on one of his visits home from college four or five years before. He had read it to himself, pursing his lips and feeling embarrassed but not entirely so:

*Let us be thankful for murder not yet slaughter,  
For the pressure of something controlled, however slight,  
That keeps their blood from turning quite to water;  
Let us be thankful for dusk that is not yet night,  
For half-felt meanings that render their acts impure,  
For the random pause and the knife that is not quite sure.  
Remembering, it is wrong to dream of other days  
And wrong no less to conjecture a perfect land,*

*Let all of us who weep give thanks, and pray  
For the hate that will steady the knife in our own sure hand.*

An outburst against the Jews in Germany had led him to write that black little prayer; he had never shown it to anyone; it had worked out his feelings at the time, and the other night he had torn it slowly into pieces. Possibly the news from Poland had made the cynical words from his eighteenth year seem more bombastic than anything.

But as the words crossed his mind now he felt nothing but embarrassment. And the irony of Einstein's letter, whatever might come of it—that irony seemed slight and embarrassing, too. It was the other irony—

"Did he actually mention a bomb? Did he use that word?"

"Of course. He knows the possibility."

—that irony, which was not irony but tragedy, which made him turn now to look at David, in whose eyes he saw either his own feeling or an understanding of it. "We're seeing light on a drive that's been going on for half a century"—and in bits and pieces, in stops and starts, in endless links, for centuries longer than that and to a possible end that all the generations of history could not have dreamed of. But uranium, of course, Becquerel's uranium had been the birthstone of the twentieth century, and the atoms of uranium were the sick atoms—born unstable and doomed to decay. Well, this was enough of that for now.

"Still, it's quite a distance from a letter to a project. Nothing's under way. What do you mean, project?"

"There'll be one," Voss said, and again Louis noticed that his hands were gripping the edge of the table. "There has to be one."

Libby was fidgeting. She knocked over her glass of water and the waitress came to clean up the mess.

They left the drugstore. Voss had to prepare a class; except, he discovered, staring at his watch, he didn't have time to prepare it, he barely had time to get to it, and so he left them, half running down the street. David Thiel offered to show them around a little before they drove back home, and a few minutes later they were standing in a large and dingy room, at one end

of which was a complex of metal masses and tubes and meters.

"What hath God wrought!" Louis exclaimed. He clapped his hands together and smiled from the simplest pleasure. He looked at David, laughed delightedly, and then, suddenly all intense interest, went over to the machine and began to examine it with the utmost care.

"What is it?" Libby asked.

"It's called a cyclotron. It busts up atoms," David said, his attention about evenly divided between Louis and Libby. "It's sort of like a microscope for things you can't see with a microscope. This one's an old one."

"This one's a museum piece," Louis called, "a noble museum piece."

It was, to be precise, about four years old. It was the third cyclotron that man had built to measure the particles that had no dimensions, to weigh what was without weight, and to see what was invisible. Two graduate students and a professor, with the intermittent help of three or four machinists, had put this one together in about a year's time, working nights and weekends with brass sheet and meters and Bakelite surreptitiously acquired from the stockroom of the chemistry laboratories, well stocked in those days as the laboratory cabinets of the nuclear physicists were not. Not much more than a thousand dollars had been spent on the whole construction of this four-year-old historic instrument, and that had been finessed out of budget appropriations for other things.

The troubles that had beset the nuclear physicists in acquiring the tools without which their work could not proceed had come from the fact—as inexorable as a law of nature in those days—that no one, not the most impassioned prober of the nucleus nor even the least, could assign a practical value to what he was doing or was after. Despite the revolutionary mathematical constructions of the twenties, the nuclear physicists did not know quite how to assess what they were doing because they could not establish quite what they had done; the new equations, which dispensed with sense perceptions in areas where the senses could not enter and thus ruled out the old, comfortable solar-system



conception of the atom, explained a great deal and worked predictably, but could not themselves be explained clearly enough to give the physicists much company. Even after the great particle discoveries of the early thirties, no one had been able really to foresee anything more than a notable increase in man's knowledge of the universe; for the nuclear physicists this prospect had generated waves of excitement that touched them all around the world, but it had had relatively little effect on boards of trustees, state legislatures, and the research divisions of the country's corporations.

Watching Louis's loving and respectful examination of this small monument to the importance of non-useful questions, and still thinking about their conversation at lunch, David Thiel found himself remembering a morning he had spent almost exactly one year earlier, ninety days before the discovery of nuclear fission, in an office of one of the largest electrical companies in the nation. With three hopeful colleagues, he had gone to try to interest the company in spending thirty thousand dollars on the construction of a very promising new type of cyclotron. The company executive had listened to them amiably, but he had shaken his head almost at once. "There's so little practical promise in this kind of physics, nothing to justify—" David had been struck by the phrase "this kind of physics"; he suspected that the executive would have felt ill at ease, perhaps a little precious, if he had said "nuclear physics."

"I see you use acetone paint for leak-hunting," Louis said to David. "Any better than alcohol?"

They talked about such details for a while, and Louis's mind turned on the need for cheap labour at Chicago. Then they left the building. David handed Libby into the Saxl family car for the drive back.

"What do you really think about this project business?" Louis asked him.

David touched a hubcap of the car with the tip of his cane, and followed the circle of it around and around.

"I don't know," he said finally. "My guess is there'll be something, some part of the government will decide to do something.

Normally, of course, you wouldn't expect to see a practical result from a discovery like Hahn's for fifty years. But everybody's up to his ears with this. What's been done just in this past eight months is already ten years' worth of—well, say a special kind of physics. I don't know. I've got great respect for Roosevelt, although not much for governments—any government. You just have to have them, Roosevelt's what you're lucky to get. He seems to like people. So if you like people, what do you decide to do about making a bomb that might wipe out a city at one crack?"

"Shall we say that science is important enough to the President so that he shouldn't be the first to divert it?" Louis said, trying to imitate Voss's voice.

David laughed.

"Voss is easy to argue down halfway but not the whole way," he said. "Or I guess I mean just the reverse of that," he added.

"Well, but what about the possibility itself?" Louis asked. "I wish to God it just wouldn't pan out, I can think of a dozen reasons why it shouldn't, but I've got an uneasy feeling it will. It's just consistent with what we know that it should, I guess. An explosive reaction, I mean, only that. Only that! My God!"

"You ask a lot of Mother Nature," David said, looking at Louis in a very friendly way but with the slightest detectable note of irony in his voice. "Give us the good half, deny us the bad. She's much too perverse. I know a guy here who can prove it won't work. Like you and me, he was born and brought up in the United States. But Fermi and Szilard and Wisla and Wigner and Weisskopf and Teller and some others, all here by virtue of travel more or less enforced, seem to think it will work, from what I read and hear. Well, you know—nature always gives the same answers to the same questions. But a guy running from a concentration camp maybe asks some questions harder, or refines them some, or maybe just listens harder for the answers."

David straightened up, looked both ways along the street, and seemed about to walk away.

"That's unfair," he said then. "I'm talking like a social scientist, which is out of context at least. Yes, I think it will work."

And if it will, the Nazis will try it, and that being the case, we'll have to try it. In short, I agree with Voss, and may God have mercy on our souls. There's one real hope—it may not work in time. Cling to that."

Libby honked the horn; good-byes were said; Louis got in the car.

"Say hello to Chicago for me," David called.

On the way home Louis figured out what it was that Voss's intense expression at the lunch table had reminded him of. It was the Spaniards, and other men from other countries who had come to Spain to fight—many that he had known and lived with for a while. The same drive and hardness and understanding beyond his that he had seen in their faces had been in Voss's face. He had felt soft before these faces, although either less soft or less conscious of the expressions after four months than at the beginning, and he had had something like that feeling with Voss at lunch. There was nothing in the expressions, and nothing in his feeling, that his intellect could not bring to order for him; but his emotions could not do as well. The hate that he had seen in the Spanish faces, along with courage and beauty and ardour, and sometimes unspeakable grief—those expressions had been complicated—had eluded him in the final sense that he could not find it within himself. This same hate had been the impurity in Voss's face at lunch—although it is an impurity, he thought, which alloys, and alloy has two meanings and infinite gradations—and he marvelled at it now as he had many times before.

But why could he not feel it? Why had he not felt it even in Spain? Was it because one hated what one feared and he could not think of anything which he absolutely feared? Was this arrogant, a sin of pride? He had feared bombs and bullets in Spain, had he not? Yes, but not enough to hate them. Well, of course, but he had feared the ones who dropped them and shot them, hadn't he? Yes, but not enough to hate them. Indeed, he asked himself with some irritation, why then did I shoot at them? Why, to stop them. To stop them. Did he recall that

Voss's sister had been murdered by the Nazis? Yes. A Jew, like himself—a sister, like Libby sitting here beside him? Yes. Does hate mean anything to you? he said, and in just this way, addressing himself. Yes. What, then? Why, it is something which, like an alloy, can be ruinous unless it is very carefully controlled. But it is something with which controls fail. It is the thing that reason least can deal with. It is of all things the thing to fear.

He stared down the smooth straight road. Libby had fallen asleep, dreaming of bicycles and marriage. The car moved steadily and easily, at sixty miles an hour, through some of the richest farmland in North America, through Menard 2200 . . . Pleasant Plains 900 . . . White Hall 1800. Hedges of Osage orange at intervals came rushing in towards them from the segmented fields of the basking crops. Cows looked at them; chickens scurried; farmers driving up to the highway on little country roads stopped a mile away to let them pass. He felt uneasy.

Gustavo. Gustavito.

Did he remember a man called Gustavo, or Gustavito?

Yes, he did.

This Gustavo, whom he had never met but had had pointed out to him once, was—or had been—a miner; or so Louis had been told. In the early fall of 1906 he had been a flier. How he had come to be a flier, from having been a miner, Louis had not heard; but he must have been a flier also at some earlier time, somewhere along the line, for when Louis first learned of him, only a couple of months after the Spanish fighting had got under way, he was flying so often and with such assurance that he had made something of a name for himself among the government forces around Madrid. The government didn't have many planes to put up against the Junkers and Heinkels and the Savoias and Fiats with which the traitors were supplied from the day the war began, and before. At times it didn't have any fighter planes at all, at least on that front. In such cases its bomber pilots, often flying old crates put together from the parts of others and armed with pre-World War I machine guns, made what use they could of clouds for cover and of blind luck and improvisation to get them in and out of the clouds. Gustavo had acquired his reputa-

tion at this kind of flying. According to stories circulated by his fellow fliers, he flew the old crates with a skill and presumption marvellous to behold; he had been given up for lost half a dozen times but had always returned; he had knocked out any number of truck columns.

Louis suspected that if Gustavo had not existed he would have had to be invented, and perhaps was partly an invention. Undoubtedly, in those days, his exploits and the stories about them kept up hopes, and the one perhaps as much as the other. But the stories came from the men he fought with, and if their admiration elaborated the facts, Gustavo charged the admiration.

"There's Gustavito, he's a wonder!" So spoke the man who pointed him out to Louis. The flier had been standing by a plane, an old patched-up Breguet. He was a fairly big fellow, but he had on a tight leather jacket which made him look smaller, or somewhat held in. He was talking to two companions, moving about restlessly, and the impression he created, even at a glance, was that of a bright, dedicated, competent man.

What happened a few days after that Louis partly saw and partly heard about. He saw the old Breguet going over, leading two hybrids; they had an escort, too, a couple of pursuit planes flying above and ahead of them. Roads to the west of Madrid at this time were jammed with fascist supply trucks; a mechanized column was supposed to be on its way up from Toledo; there were any number of likely destinations for the pathetic little sortie that the government planes were making. But they didn't reach any of them. Louis saw the puffs from a few anti-aircraft shell bursts, and then more, and then more than he had ever seen before, and all precisely at the level of the old planes, just ahead of them. The planes slipped down and the bursts lowered with them. This was precision work, and it was something new.

"Electronic fire-computers. Dozens of them. Fresh in," one of Louis's battery mates muttered. The government had none of these.

The plane to the left of the Breguet staggered and spun; then it pitched straight down, turning and smoking. The flat plain

of shell bursts was all around the other two, exactly on range. Louis could not distinguish these two in the fire pattern, and could not make out which one had been hit even as the second plane followed the first one down. But a few moments later, out of the black smoke, came the Breguet; it was coming back; by some miracle it had not been hit, and so Gustavo's luck had apparently held; but it was coming back, and still with its bombs. And twelve men or more were dead; no parachutes had opened.

It was so goddammed unfair. He wouldn't have defined hate quite so elegantly at that moment, would he?

And then, some time later, he had heard that Gustavo could no longer fly. No one had really blamed him for backing out of that barrage, but the man who had backed out was not the man who had flown in. The gossip was not that he'd lost his nerve but that he'd lost his spirit; a friend of Louis's saw him and talked to him and said the best he could make of him was that he had a bad case of horrible disbelief; he'd been fighting along in the firm conviction that right made might and—well.

That was all Louis remembered about this Gustavo, although, now that he thought about him again, he remembered that he had also been thinking about him a few months ago, in March, when the papers carried the news of the final defeat of the Spanish government by the fascists, including most of all the Nazis—the same ones as now, as he had said to Skip Seago the other day.

He switched on the car radio, softly so it wouldn't waken Libby. For a few miles he listened to music and then to an agricultural report. He thought a little more about some Spaniards he had known, and of this one he hadn't known, of Voss and Wisla, of Einstein, and of his new friend David Thiel.

The news came on finally. Warsaw was crumbling and the Germans were roaming the country at will.

And then for a while he reflected on the fact that, so far as he knew, no one had ever seen more than a few grams of uranium as a metal all in one place. Its very limited uses, principally in the manufacture of ceramics and glass, involved trifling quantities. Sooner or later it would be necessary to work from tons

of pitchblende, someone would have to have tons of the stuff processed to get the metal in sufficient quantities and pure enough; and then, on top of that, to separate out the light isotope which was the promising one—that would be an enormous, absolutely unprecedented job, and perhaps it would be better to stick with the ordinary mixture. As to that, though, it would be necessary to process tons of some moderator—carbon, oxygen, maybe deuterium, it would take a lot of experimental work—and to what degree of purity? Perhaps one part in a million? Was this possible? The chemists would know. And of course all this assumed the success of a very great many laboratory validations of some very audacious theory which, among other things, would probably fill in a couple of places on the periodic table of elements. Was all this really possible? It simply did not seem so; and yet?

And yet it certainly will be interesting to hear what Neimann has to say about all this, he thought.

Thinking of Neimann, he thought of the new cyclotron, and for the first time since this trip home had started, his face relaxed. He smiled to himself, and then he punched Libby and woke her up, and for the rest of the way they talked of many things.

## 7

That night Louis filled out the forms which Neimann had sent down from Chicago, and the next day he mailed them back with a letter saying he would be there. The same day Theresa's letter arrived from New York; she had carried it around with her for a week.

He wrote a letter to Theresa, read it over, and tore it up.

Around his house he was preoccupied, saying nothing; or by sudden turns was garrulous with bits of impersonal information.

His mother decided that Theresa's letter must have said some-

thing to hurt him, since his changed manner seemed to date from that. She could not bring herself to ask him about this. She hoped there was no unpleasantness involved; she did not define unpleasantness; she wished she knew; and she was filled with sympathies for her son, any expression of which seemed to irritate him. From this she was sure that her analysis was right.

As for Benjamin Saxl, he waited for an opportunity to discuss the business, meanwhile learning by bits and pieces of his son's plan to go to Chicago and something of what the work might be like there. It made very little sense to him, but he did not respect it any the less for that. It was, at all events, one of the things a Ph. D. did.

Not knowing what the lack in communication was, and often not knowing that there was a lack, Louis's parents, like many parents, assumed the understanding that their feelings told them there should be. They found some confirmation of what they assumed in words chipped from the surfaces of conversations, in random expressions nurtured into revelations, and mostly in the absence of denials. In the silences they were satisfied that a parent's understanding has properly to be a limited thing. And in the end Mr Saxl came to believe more or less that the business had been discussed, although it had not been.

Louis wrote another letter to Theresa and mailed it. It was full of love for her. And it was full of the excitement which his afternoon with Voss and David Thiel had generated and which his thoughts had increased; and this was not for her. He meant both, and when she got the letter she felt both. But he did not know which he meant most, and she felt this, too.

She thought about things for several weeks before she answered him, and during this time she went out with several other men and came home to pick up her thoughts approximately where she had left them. Then one night he called her from Chicago. The conversation was unsatisfactory; nothing was said that meant anything. For many months after that there was not even a letter either way.

She wrote him then because her mother died, and sadness and longing overcame her pride. The day after he got her letter he



appeared in New York. He had not been there an hour before she saw that the months of silence which had been an eternity to her, he had hardly been aware of. And this discovery confounded her long enough for her reason, exploring it, to get around her hurt.

It was a strange visit, shadowed by the happening that had brought them together, lighted by their being together, and dappled by reasonable doubts and by certainties that at first seemed unbelievable. But the doubts were all on her part, and the unbelief as well, and she simply could not maintain them in the face of the certainties, the first of which was that he loved her in his fashion and as much as ever.

What her reason finally suggested to her, in the days following his return to Chicago, was that some horses drank easily but could not be led to water. The crudity and cynicism of this shocked her. He is a dedicated man, her heart said. To what, if not whom? said her reason. Also, her heart said, an hour with him is better than a year with anyone else. Then, said her reason, you deal with the problem. And I shall, said her heart, oh, I shall!

But it was easier for her heart to say this than for her to do anything. Louis was one place and she another. Moreover, she learned that if she did not write he was very apt not to write either. But then she learned that whenever she did write his letters came promptly. Over the next year and a half or more, while she helped to reconcile her father to loss, she reconciled herself to postponement, and the letters flowed back and forth.

His were as full as before of the love and the excitement, and more and more the two were intermingled, although less and less could she tell from his words what it was that his excitement was about. In fact, he said nothing directly concerning his work; what she got was the sure knowledge that it engrossed him to the exclusion of a real interest in anyone or anything outside of it, save herself. As to that, the testimony of the letters and the experience of being with him six times during this period were absolute, since he was unable to dissimulate.

On one of these occasions he said, more or less in passing,

speaking of something in the future, "when we get married—" She was lying by his side, and she turned and kissed him. "Thank you, I accept," she said. One way or another, she remained very much in love while growing philosophical about it, a difficult achievement, although it meant only that her reason had come to side with her heart.

And then, for more than three years, starting just after the United States entered the war, they saw each other not at all. She followed the war news in the papers and on the radio, worked at two or three war jobs, and wrote out her letters, which were answered less regularly than before. She was given a new address to write to—Box 1663, Santa Fe, New Mexico—but no explanation of it. Some of his letters, with what seemed to her a kind of desperateness, dwelt on particular happenings from the happiest coves of their past together. He wanted to know every detail, down to the tiniest, of what she was doing and thinking. She supposed that a million girls were getting letters like this in that respect, and most of the time she thought of Louis as some kind of soldier; but she did not know what to say about him to her friends, was beset by doubts and worries, and rose from each of them to ever fiercer faith and loyalty. She formed a dozen theories, all of which collapsed when the newspapers came out with the awful headlines of August 6, 1945.

"Every once in a while," he wrote her not long after that, "I get to pondering those two questions of Hillel's—'If I am not for myself, who will be? But if I am for myself alone, what do I amount to?' They are tough questions—it is hard to figure out sometimes which you are being. Oh my most darling Therese, I am afraid a horrible thing has been done. Maybe not really meant, maybe simply not thought about all the way through—perhaps a kind of accident and not a real design. But now one is as bad as the other, now even our accidents take on the quality of design."

## PART 7

**Friday and thereafter: *those roads are  
ghastly silent***

### I

"He's got a good hand, Louis has," Dombrowski was saying. "Very neat and careful. Quick, too. I've watched him, mostly at Chicago, specially when they were putting up the cyclotron there."

Jerry Dombrowski and David Thiel stood facing each other in a corner of the machine shop which served the Los Alamos cyclotron. The reading-machine that Dombrowski had put together for Louis stood on a bench between them. The machine was finished, ready to be sent over to the hospital, and Dombrowski really did not want to let it go. He would have liked to keep it around for a while, to fool with it and perhaps to refine it here and there; or just to look at it and work it a few more times, and explain it to others who might come by and who would not have seen a contraption like this. It had been David's idea, and

half a dozen others had contributed to it, but the workmanship was Dombrowski's.

"What I mean to say, though," Dombrowski went on, "is he had the feel. He could kind of walk right up to what was wrong and know what to do with it. I take it best generally if the theory people stay away. They don't generally have the feel." He chuckled. "Like once with the Chicago job some of them decided to do a little fixing on their own, so they use soft solder to set the ion probe. So help me! The heat melts it, of course, and it sprays all over the insides, and the beam—well, it went crazy, of course."

Dombrowski reached out a hand and very delicately touched the foot pedal which operated the reading-machine; not pushing the pedal, only jogging it through the small amount of play that he had allowed, he continued talking to David.

"But of course no one knows what threw the beam off. They only know it's way off. So they had a bad beam and they sit around scratching their heads something fierce. Well, Louis, he comes in and sniffs around some and pretty soon he says: 'Someone didn't by any chance use some soft solder on that probe, did they?' That's what I mean. So I had to take the whole business down and clean it out. A mess."

Dombrowski smiled in a friendly way at David. He was a good deal older, somewhere in his fifties, and he was in charge of this machine shop, one among a dozen or more specialized shops distributed throughout the Technical Area of Los Alamos. In size, in amount of equipment, and in number of operators, all of these shops together barely equalled still another, general machine shop set in the very centre of the Area. That one did the routine, repetitive jobs; the construction, shaping, and finishing of basic bomb parts, the repairing of standard equipment, and a steady run of other chores, most of which called for a high degree of mechanical skill and few of which called for craftsmanship. The craftsmen were in the specialized shops, meeting problems too unique to be prepared for except by having the craftsmen present; blowing glass tubes and vessels and hand-fashioning metal links for high-vacuum systems; shaping parts for machines

which had to be understood to be worked with. The best of the craftsmen worked in the shop attached to the cyclotron building; Jerry Dombrowski had worked with cyclotrons since Ernest Lawrence put together the first one sixteen years before, and he kept his tools, passed on to him by his father, in a polished mahogany chest which his grandfather had made in Poland fifty years before.

"Takes all kinds," Dombrowski said. "Excepting for him and maybe you a little bit—" he winked at David— "and a few others— God, that's a bad thing about Louis, a bad thing." He stood, still fingering the pedal, and now he let his eyes rove around his shop, over and among the lathes and drills, the do-all saws, the milling-machines, the clutter and the men who were working, seven or eight of them. "Excepting for a few—" he said again, and then seemed to force his eyes back to David. "That Bohr fellow was down here once or twice. I was given to understand he's very important. You could see he don't know a shaper from a punch press, but that's all right. He didn't make like he did. He looked on while I did a little piece for the big job." Dombrowski nodded his head towards the large room beyond; through a wide doorway the curving side of the cyclotron was visible.

And now he pressed his hand against the foot pedal which started the small electric motor of the reading-machine. At once his eyes and David's turned to the book rack four feet away at the other end of the machine's frame; a gear turned, the linkage moved, and a rubber-faced fin slid across and up the right half of the book in the rack, slipping one page to the left.

"Uh-huh," Dombrowski said. "Well, you want to get from here. You tell Louis I'm awful sorry. I worked with him near three years at Chicago, right into the project, and all out here. It's a bad thing. Davey, what's the real odds?"

David, taken off guard by Dombrowski's question, said nothing at once. He lifted his cane and with the tip of it nudged the projecting handle of a small wrench back over the edge of the bench. Then he shook his head and looked at Dombrowski.

"Not good," he said.

"I'm awful sorry. I watched him do that experiment once, four-five months ago. He made it look easy, but it was a crime." Dombrowski leaned a little across the reading-machine and peered intently at David. "I'd say he knew it was, too. Why'd he do it that way, Davey? That set-up down there was wartime pure and simple, everybody knew it. Why wasn't it changed over?"

David gave a little snort. "He tried to get it changed over, Mr Dombrowski. Quite a few of us tried. You'll be happy to know it's going to be set up right now."

"Oh, that's good, ain't it?" Dombrowski said, straightening up. "That's good. You don't mind me saying I don't believe it—about the trying, that's to say? Leastwise, from what I know of Louis Saxl, I got doubts *he* tried. Like I told you, I watched him at it just the once. But back at Chicago—here too, in the early days—I was in on a lot of jobs with him—pressure jobs—that's to say the setups wasn't so good but you had to make do. There's pressure on you, but then there's like a pressure *in* you too, so it works out. Many's the job I done with a handsaw that called for a do-all—but not if it wasn't a case of being necessary. That there's where Louis worked different. If it was necessary to do that job that way, you wouldn't of tried to get it changed over at all, would you?"

"That's one way to put it," David commented; he was a little irritated at this development in the talk, or possibly just at its continuing.

"Yes, sir," said Dombrowski, a little irritated himself by David's words. "That's a way to put it, and so's the other half—that's to say if it wasn't necessary, somebody could of got it changed over if they'd really tried, and don't tell me different. I wouldn't of done it the way it was, I tell you that. I got too much respect for tools to use them wrong—people too, myself included, if it comes to that. But Louis went on doing it. I got no doubt he must of asked hisself, what's he doing a pressure job for when he don't see the pressure no more—can't feel it anyhow? But he went on doing it. Besides which, it's my suspicion he knew there'd be a slip someday. He'd *have* to know it."

"You're saying quite a lot."

"You can make a lot out of it, but that ain't to say you necessarily get my meaning."

Dombrowski ran the fingers of one hand up the side of his nose and into his eyebrows, which were very bushy. He looked at David with the beginning of a scowl, but it went away at once and his whole face softened; and meanwhile David looked down at the floor.

"Well, then what's your meaning?" he said in a low voice.

"Davey, this ain't the time and I ain't sure. I guess I don't mean a thing more'n he's just awful young and full of zip about what a fellow can do if the fellow's hisself. Or I could mean he let hisself get the blues about things and got hisself into a kind of what-the-hell— I don't rightly know, Davey. I shouldn't be going on this way. I just got to thinking a fellow with Louis's training don't get hisself in a spot like this. Who does that is a fellow without the training or a fellow acting on something else. I'll send the machine over. Go on. Go on."

Dombrowski turned and walked back into his shop.

## 2

From the machine shop David went out across a small yard; half a dozen men were going through it, from one building to another, as he went through; all of them knew him, and spoke to him and he to them. Then he cut in between two long, low buildings set close together, and came out into another yard at the far side of which was one of the gates in the high steel fence round the Technical Area. At the gate he was checked out. He walked along the outside of the fence for a block or so, which brought him to a street leading into the business centre of the town; halfway along this he stopped in front of a drugstore window and looked at a display of water fins—a bright and profitable idea of the manager's to cash in on the Bikini tests.

It was getting close to noon, and since this was Friday the housewives were already out in force doing their shopping for the weekend. Two of them came up to him as he stood before the window and he talked briefly with them. He proceeded then past other stores and came at last to the military headquarters of the Los Alamos post. The building was a one-story, double-H structure, painted ghastly green; a flagpole stood before it in a small patch of excellent lawn; a dozen official cars were lined up on either side. David went in, turning at once beyond the door into the outer room of the office of the commanding officer. The WAC secretary said hello and picked up her telephone; someone was just leaving, could he wait a few minutes? In half a minute the door to the inner office opened, a young officer came out, and David entered.

As the commanding officer, Colonel Hough had a rug on the floor of his office, a stiff brown leather sofa, and a globe in a walnut stand. The deputy commander did not have the globe, and none of the other military personnel of the post had a sofa, although a few had rugs. Aside from his perquisites of office, Colonel Hough's room contained little to distinguish it; it was not a large room, the desk was an ordinary green steel desk, some filing cabinets stood along one wall. Besides the sofa, there were three or four chairs for visitors, of whom the Colonel had many in the course of a day.

Contemplating his globe in the moment between the young officer's leaving and David's entrance, Colonel Hough was thinking how profoundly true it was, as he had often said, that this project had two heads. He had no illusions about the relative importance of the heads; and the existence of the other stirred up no prejudice, pride, or competitiveness that amounted to anything in him. In the great days, indeed, when the war was on and Oppenheimer was driving everyone to distraction and achievement every day, and often enough every night, he as readily as anyone had recognized that there were two heads only on paper and in fact but one. He had once heard someone say that the laws of physics were the decrees of fate; lacking a knowledge of the laws, he had simply taken Oppenheimer's decrees as a



reasonable substitute for them, particularly after he discovered that General Meacham often did the same.

If you looked at things from a different perspective, of course, there was only one head, he being General Meacham; the difficulty in looking at things this way was that General Meacham was not often on hand to be seen, and, moreover, the scientists did not seem to pay much attention to this way of looking at things.

If you looked at things still another way there were heads without number, one of whom was coming in the door; although things were simpler if less exciting now than in the great days because so many of the big ones had gone back to their universities or to their native lands, and simplest of all right at the moment because a hundred and fifty of the biggest that were left were in Bikini or en route.

But to be realistic—a necessity, he reflected, since he was worried—it would be best to confine his present thoughts to the civilian director of the project, with whom, in the ordinary course of events, he would discuss such matters as that of holding up a prepaid telegram, of dealing with an erratic Congressman, and of preparing a release for the nation's newspapers. He had been telling himself that he had not consulted the civilian director because the civilian director was in Washington attending conferences related to Bikini, but it was time to recognize that this was an evasion—partly because the civilian director would be back the next day, and partly because he had left in his place a deputy who could be consulted.

But the deputy was a very quarrelsome person, really impossible to get along with. Was this because he was a chemist? Well, once he had asked some physicists why they so often bickered with the chemists and had been told that chemistry was the most mulish of the sciences and chemists the most mulish of scientists because they had no mathematical basis, nothing to test their new ideas by, while their old ideas were laid over with tradition. Could be; he couldn't say; all he knew was that this deputy was quarrelsome and a pain in the neck to discuss anything with.

"Hello, Dave," he said, getting up from behind his desk and coming round it. "Anything new?" The question was routine, almost automatic, but even as he asked it he had a sudden feeling of intense self-consciousness; he had overslept this morning; he had not called the hospital; the doctors all talked of a latent period, but suppose—suppose there *was* something new.

"Is there anything new?" he asked anxiously.

"No," David said. Then he gave a sigh of real weariness and lowered himself onto the stiff sofa. He had been to the hospital before he had gone down to see Dombrowski; and before that he had had a talk with Wisla, and before that a talk with Berrain and Pederson. There were answers to Hough's question, but not simple ones. No, he could say, there's nothing new, it's all old now, very, very old. Don't be pretentious, a part of his mind said. Don't muddle, another part said.

"No," he said again; and after a moment: "I heard about this Congressman."

"I supposed you would. I suppose Ulanov told you."

"No, not Ulanov. Anyway, is there any remotely conceivable shadow of a possibility that anyone will try to get him in?"

"He isn't even here any more. He's gone back to Washington."

"Good. I also heard you're holding up telegrams. I thought the censors were called off last December."

The Colonel studied his globe; he felt quite unsure of his ground in the matter of the telegram; he decided on camaraderie.

"Dave, look, I had to do that. I know what you think, I know your feelings, but we just couldn't let everybody send out anything at all on this. After all, this is still an Army post. Try to see it our way a little, Dave."

David smiled; he seemed to be studying the globe now, too.

"I know. Live and let live. This is a very fine doctrine, and I only wish the Army understood it. However—" His cane was lying on the floor beside him; he spread his hands slightly.

"May one ask a great boon?" he went on. "Since you stopped it two days ago, will you at least please keep it stopped? Can you see to it that it's not rushed through now, out of some sudden contrition on the part of the Army?"

"Certainly, Dave. I understand the situation."

"No snafu?"

"No snafu."

"You do understand the situation?"

"Well, yes—that is—"

"You know Louis's family will be notified today? Perhaps by you—Berrain and Morgenstern thought you were the one to do that."

"I have no objection to doing that. Can't say I'll enjoy it."

"You understand the situation, you say?"

Colonel Hough smiled a resigned smile.

"Dave, I wrote out a draft of a release myself last night. Dictated it to Lorraine. I did the best I could, taking everything into consideration. Public relations has it. I gave it to them this morning to touch up. And somebody will be bringing it back in here any minute. Do you want to wait to see it? I'll show it to you."

"Yes, I'll wait," David said. "I'll wait for that."

And so, because they were specifically waiting for something, they went through the curious metamorphosis that waiting people often go through; that is, they thought they had to talk about things entirely different; or, without thinking, they talked about them.

In this way David and the Colonel filled the time for several minutes; the Colonel told about progress on the new road being built up to the mesa, which would cut out seven and a half miles and several hideous curves of the worn old mountain road that they had found there; they shook their heads over the dry winter, which had brought the threat of another water shortage; the Colonel said they were testing for new wells and had some hopes; David said that everyone he knew was complaining about the quality of the milk and suggested that some testing be done for new dairy farms as well; the Colonel said they hoped to have fresh beef again in a few weeks; David asked the Colonel to tell Mrs Hough that he was sorry for having come to their house so early the other morning; the Colonel said it hadn't bothered her at all, she always enjoyed seeing David.

For a minute or so they said nothing.

Then the Colonel walked across the room, turned and walked back and sat on the edge of his desk.

"Dave," he said. "What did happen? Can you tell me what went wrong—what you've found out?"

David seemed to think about this for a while; he was looking at the globe again and there was a rather faraway expression on his face. At last he said he wasn't sure just how much the Colonel knew about how the setup worked. The Colonel said he wasn't sure either, he supposed he didn't know too well although he had a rough idea.

"Yes, I should imagine so," David said in a mild voice, nodding his head.

Of course, he went on, Hough would be as familiar as anyone, as familiar as need be certainly, with the fact that a great many laboratory experiments released or made use of nuclear radiations, and consequently set up a radiation hazard to the people around. But the intensity of the radiation given off in these experiments was as a rule fairly slight; with a cyclotron, for example, there was always some radiation leakage to the surrounding area but never enough to do any harm to a person who might walk by. On the other hand, a person working regularly with a cyclotron might accumulate enough over a period of time to hurt himself; so he wore a radiation register of one kind or another, a film badge that would fog or some sort of pocket ionization chamber that would indicate intensity. He might notice over a period of a day or a week that he had got an excessive exposure, whereupon he stayed away from work for a while and cooled off; no damage done if he didn't abuse things.

In short, David observed, in such situations intensity is slight and time is long and the product of these is safety—all reasonable and elementary, and all you have to do is to reverse the formula completely, turn it exactly around, and you have the formula for the setup in the canyon.

Although, David said, he would have to insert a kind of footnote at this point. It had to be understood that he was describing

only the end point of the canyon experiment. He was sure Colonel Hough knew that in normal operation this experiment contained its radiant energy and that the intense diffusion of it in a short time—a time really so short as to be immeasurable and quite out of any scale in which a human being can function—came to pass only if this end point were reached. The fundamental and interesting thing about the experiment—in this context, he explained—was that its end point was simply one additional step beyond normal operation and a step that was taken in precisely the same way as all preceding steps. To be sure, warning signals of several kinds were given as the end point was approached, and if the operator were listening very intently and using his eyes one might almost say ingeniously, and had all his wits about him—for the nicety of human control called for was really too much for a man except at his most vigilant, at his very most vigilant—why, then he could manage quite well. David said he had checked only a day or two before and found that Louis had managed things sixty-three times; this was quite good, was it not?

This business of the warning signals, he went on to say in a parenthetical tone of voice, was interesting in its own right. By warning signals he meant the counters, meters, monitors, and so forth, which provided running data on the progress of the experiment. Some of these did not actually warn; they only informed you afterwards, and they had been very useful to him in his efforts to find out just what had happened and to work out the radiation dosage that Louis and the others had received. But taken all together they did provide some warning, even though not quite enough, apparently, at times. One trouble was that, with the very best will in the world, a person doing the experiment many times over became accustomed to them, hence possibly a little less attentive to them sometimes than he had to be always, without any exception, if they were to serve their purpose.

In this connection, he wondered if Hough had ever noticed how, in the rituals of primitive societies, things are regularly invested with the trappings or characteristics of persons, and in

fact are very commonly thought of and treated as persons? This tendency could be seen in some of the rituals performed right around Los Alamos in the pueblos, and Hough had probably witnessed a few of them. David said he thought this might be worth calling attention to by way of clarification, because, again, if you simply reversed this approach you at once got the situation that prevailed with the experiment of Louis's. The Indians, David said, would probably be fascinated with this particular experiment because it would be so novel to them on many counts, including that one.

But he did not mean to imply, he assured Colonel Hough, that the experiment was unique in this respect. He could think of other cases in point, and he had sometimes reflected that very single-minded individuals and institutions often seemed to have the tendency to treat persons as things; doubtless they had to if they were to dominate—and he supposed it could be agreed, in a rough way, that intense single-mindedness and the wish to dominate often did go together—simply because people in general were so notoriously not single-minded. David said he knew, of course, that single-mindedness and efficiency were also supposed to go together, but he had sometimes wondered about that. He remembered, for instance, that in the early days of the project, when the critical mass of uranium was first being established, some physicists from Los Alamos had happened to be at Oak Ridge, where uranium was being separated, and just happened to notice how pieces of the fissionable isotope were being piled together. The amusing thing was that the Los Alamos people knew the amount beyond which it was not safe to go in one spot and the Oak Ridge people did not. This was because the Army's rules for the compartmentalization of project work—in the interest of security, to be sure, but rather extremely single-minded, even somewhat insular and unreal—did not permit the Oak Ridge people to know. One of the Los Alamos physicists, a very unsingle-minded guy, simply broke the rules and told them just in time. Of course, David said, this man was by definition a traitor—he had transmitted classified information

to an unauthorized person or persons. And yet there did seem to be an element of usefulness in this traitor's inefficiency. Well, David said, he had no wish to labour the point. There were many stories to much the same effect as this one, but he saw no reason to recount them now. It did occur to him, however, that one reason so many scientists had left or were leaving the project was the gross inefficiency of the Army's single-minded policies of compartmentalization and security-*uber-Alles*—inefficiency with respect to scientific work at least—although there were many other reasons. One other reason, for instance, was that despite numerous official protestations touching on such things as the new age of the soul and the bringing of light and abundance to all with the infinite boon of the great new energy—despite such protestations, the work continued almost entirely as before to be the single-minded production of bombs. Since, on the one hand, all men everywhere deplored an arms race in atomic bombs as pointing to a virtually suicidal end, and since, on the other, this production was the greatest contribution to such an arms race and indeed the only active contribution being made anywhere, there did seem to be here a kind of distortion of reality which was very hostile to honest scientific work as well as to other things.

David said that he was trying as well as he could to answer Hough's question, but that it was a very difficult question calling for a very careful answer and he hoped Hough would bear with him.

It might be useful, he said then, to think again in terms of other examples—the arms race to which he had just referred might serve. For as an arms race is a building-up process, proceeding in stages from one level to the next, so was the experiment just such a process. Dropping the bombs on Hiroshima was somewhat like getting this experiment under way—a hundred and fifty thousand people were killed or maimed in various ways, just as when this experiment is started, when the first piece of fissionable material is introduced, a number of fissions results. But, David pointed out except for these catastrophes to people

and to nuclei, nothing wholly irrevocable has taken place either in the world or in the pile; one might stop there; the real dangers still lie ahead.

Well, said David, it wasn't necessary to itemize. The fact was that as you built bombs you increased the intensity of an arms race, since other countries would have to make bombs too, or would think they had to, and of course it was only a matter of time until they could, and not much time at that. Similarly, with the pile experiment, as you increased the fissionable material you worked an increase in the intensity of the nuclear disintegration. In both cases you would finally reach a stage just below critical.

Now, David said, there was an important point that should not be overlooked. The nuclear disintegrations of uranium were beyond human intervention—man could not stop them or start them or slow them down or speed them up at the source—he had only learned to create the circumstances favourable to their use in one way or another. But this inevitable, almost eternal nervousness of uranium sometimes, it had seemed to him, mesmerized people and threw them off the main point. It should not be forgotten that the great questions it posed were questions that people had to answer, and it should not be forgotten that the proper fear of this force was not whether men would lose control of it but whether they would lose control of themselves in handling it.

Thinking about the experiment in the last day or two, it had come to seem to him incontrovertible that some men had in fact lost this control, at least for the time being. In their anxiety to produce bombs they had forgotten that many other men accepted the end of the war and were even trying to live and work at peace. Louis, for example, was such a man.

"I don't know whether you know," David went on, whacking his cane lightly against one shoe, "that this experiment had some peaceful uses. It did, although it is really not important what it was being used for the other day. The point is that those uses are not what it was set up for, it was set up for bomb-making. When you look at it closely you have to think of war



—of bombs and all the rest, and not just of those things, but of the enormous single-mindedness that goes with war and ends with war for most men. But it doesn't end for such a setup as the one down there in the canyon. That's the same after the surrender of the enemy as it was before—a risky thing, but men matched it all through the war. There was a balance, the single-mindedness of the man offset the single-mindedness of the pile setup.

"Then the war ends for the man and afterwards he goes down there and does again what he did before, but the balance has shifted. *That* is as single-minded as ever, he is not. Unless he's still at war in his own mind—as some are, but not most, certainly not Louis—his mind has opened in a day to different thoughts of a different kind than he had for war—to everything his life is made of, including every irrationality, every odd notion, whatever hurts, whatever excites, what he loves and what he hopes for—and if hates, then less and different hates than before. All those things. The many-mindedness of peace. All those things are in his mind now in a way they weren't before, no matter what he thought before—the single-mindedness of war kept some of them out and modified others and controlled them all. Control. He had a control—that's what the single-mindedness of war gave him, what peace took away. But with an experiment like that a control must be had. It's risky with one, but it's *too* risky without—there's a little margin with one, just enough, but almost no margin without. Not enough margin for just one moment's movement of the mind to something—to something that was mean or might be wonderful—to something private.

"Controls can be devised for just such moments—a wall of lead or concrete with holes placed appropriately—you know—for the entrance of mechanical arms which won't be hurt if the mind at the other end inserts some irrelevant thought into the safe pattern. But of course it's a peacetime thought, very irrational, to expect to get controls from men who've lost control—although there'll be controls now, and this is a very good thing, so far as it goes. How far do you suppose it will go? Do

you suppose some day we might even regain the controls we've lost?"

David gave his shoe a harder whack, glanced at Colonel Hough, who was looking steadfastly out the window, and then went on.

"Well, that's what happened, that's what went wrong. Not a complete answer to your question, but complete enough for the time and place. Apparently some warning signals were missed the other day. Possibly something was done in the expectation that it would build up intensity a little—much as someone might say let's build a few more bombs and see where we are then—and instead it took the experiment right across the critical threshold. I forgot to mention that some of the fissionable stuff comes in little blocks with removable cores. You can use these blocks with the cores in or out. The difference in weight isn't much. The difference in feel isn't much, either. It wouldn't be hard to think you were using a block with the core out when you were using one with the core in—if you didn't have your mind on it. It would be like missing a warning signal. I can tell you one thing flat. No screwdrivers were dropped. No pieces jammed. Things were just carried a little too far. Some warning signals were not paid attention to—much as—well?"

There was a silence in the room for approximately thirty seconds. Then the Colonel's phone rang. He reached for it with an automatic motion, without taking his eyes from the window. He said "Yes," and then almost at once he said "Yes" again, and put the receiver back in its cradle. The door opened and his secretary came in with—David guessed—the copies of the Colonel's release.

"Give Mr Thiel one," said the Colonel.

And then for another thirty seconds there was silence in the room.

"God damn it!" David said. "*God damn it!*" he cried. Looking angrily at the paper, he groped for his cane, got it and struggled to his feet, and stood looking angrily at Colonel Hough.

The Colonel had prepared himself for this to some extent. But he was a good deal less prepared now than he had been

earlier, before all of David's talk. How scientists cast spells—not just the Ulanovs but all of them, and he would never understand them. Some talked endlessly, some hardly at all, but all of them, the physicists especially— It could not be denied that the experiment had been set up for war; who would argue that? everyone knew it—and as for an arms race, what had an arms race to do with this, and anyway there was almost always an arms race over something. But the point now was the release; and it was simply not so, as he guessed David was going to say, that Louis's action had not been heroic; it *had* been heroic; it *must* have been heroic; he had seen men break and run, and this was just the opposite. But he felt confused now and he had not before, for although he never would have pretended that his story did not somewhat shape the facts—releases were expected to do that—he had been sure that it shaped them with a proper feeling for something which he could not define but which made him feel both sad and proud about Louis Saxl, as he was sure he ought to feel.

David had gone back to reading the release. He finished it, and put it down on the sofa, and when he spoke again he did not seem to be angry—

"Well, if this is what you're going to do, you know what I'm going to do."

—weary but not angry; unreachably weary, and hence as alarming with his threat as if he had been angry.

"If you mean what you said about going into Albuquerque and seeing the wire services, I refuse to take that seriously, Dave." The Colonel came up to him. "Will you sit down? Will you tell me what I've said that's so terrible?"

David shook his head, shaking off some of the weariness.

"No, I won't, I can't talk to you any more." But he continued anyway, bending over, looking up. "There's not a word of truth in it, although it won't do you any good—I meant entirely what I said—I'll do it if I go to jail and I'll do it if I hang for it and, God damn it, I'll do it right this minute!"

He started for the door of the office. But the Colonel stepped in front of him.

"And you get the hell out of my way," said David.

"I will not get the hell out of your way. I'm not going to let you make a damn fool of yourself or anyone else. And I insist you tell me what the fight's about."

David said nothing.

"Dave, I simply do not understand what gets you this way. I know the story has errors in it, deliberate errors. It's not the kind of publicity we like to get out, God knows, and I don't mean that to be undignified—but they'll turn it into publicity, whatever our ideas. Louis's action was a real heroic one in any practical meaning of the word, it just was. I think that should be said and the story says it. Will you tell me what's so wrong with that? If there's really something wrong, except about the fire, I promise we'll fix it. The feeling is very strong about mentioning radiation," he added, in an apologetic voice.

For a moment David stared at the Colonel, then he turned away and walked to the window, which looked out on the little patch of well-kept lawn from which the flagpole rose. He stood there silently; the Colonel watched him warily; at last he turned around, shrugged his shoulders, and laughed.

"Did you see that 'Talk of the Town' piece in *The New Yorker*, last year some time? About the flag designed for the United Nations? It's supposed to be displayed under a nation's own flag. *The New Yorker* said, if you believe in world government apparently you stand on your head to salute it. Some things are clearer if you stand on your head. Everybody is beginning to fear the Russians all over again—a police state, militarists, nationalists, half mysterious Orientals on top of everything, and surely plotting to do us in. They fear us too, of course, for a set of comparable reasons. But if you stand on your head it turns out that the biggest fear now is just the same on both sides—our bombs. They terrify us, for what they'll drive the Russians to do, quite as much as they terrify the Russians, for what we might do with them. I was thinking, down in the canyon the other night, that Louis was really the last casualty of the first atomic war—ours. But if you stand on your head it begins to look like he's the first casualty of what could be a second atomic war—

ours and theirs. Not all things are clearer if you stand on your head, however; you can also get dizzy—see things that aren't there sometimes."

David was speaking quietly, but more nervously than Colonel Hough had ever heard him speak. He moved over right beside the globe and now he stared at it for a little while, saying nothing. Then he continued more calmly, although very earnestly.

"Neil, to the best of my knowledge there's no project work of any consequence being done even now on peaceful uses, except for a very little at Oak Ridge and except for some here. Louis has been doing some. He wangled some and he pushed some through and he invented some. It's why he stayed. If we're preparing for war, this work isn't helping us. But if we mean anything at all by some of our fancier official pronouncements, this is the germ of what we mean. Also, if the physical sciences can any longer be anything more than a whip for the military to crack, this is something of what one part of them can be here and now. These are modest characterizations, and this work that Louis and some others are trying to do is modest work. It is not much honoured here. But your story dishonours it.

"A few people here have been trying to push work on a fusion bomb—the super—you know about it. If anyone wants to argue that this is going to be vital for when we get the fission arms race all knotted up and need a new entry—if anyone wants to argue that this is super-patriotism as well as super bomb-making—in fact, if anyone wants to argue that this work will someday save the nation—I won't argue back at all. All these anyones may be right, although if they turn out to be right it may be at least partly because the pressure they're generating now tends to make those crises inevitable. Also, what kind of nation will they save? My present point at all events is that mankind has good reason to hate what they're doing and good reason to love what Louis has been doing. Your story neglects to tell mankind this or anything.

"My objection to your fascination with the heroism idea is that it is strictly not true and mistakes one thing for another. He would have been a hero if he'd had time. But he did what

he did, he knows what it was, and can't nonsense be left out of one of the last words to be said about a man who was as free from it, as pure in his freedom from it, as anyone ever was?

"Can't such a man be treated slightly with respect?"

The question was not answered. The silence seemed to hold it for just a moment. Then David lowered his eyes to the globe again. He reached out one hand and gave it a little spin; the gesture was quick and almost surreptitious, as though he had been thinking of doing this for some time and had been holding back for fear of being caught, like a boy stealing an apple from a fruit stand. But he watched it turn until it stopped and then abruptly he went out of the office.

After he had gone the Colonel adjusted the globe to the position in which he liked to have it; then he sat at his desk gazing at the copy of the release which lay there; finally he called his secretary and told her to try to get hold of General Meacham in Washington.

Somewhat to his surprise, she got him at once.

He told the General that he was bothering him because the project director was not yet back and he knew the General knew what a son of a bitch to work with the deputy was. The General said he could say that again. Then, for fifteen or twenty minutes, the Colonel reviewed some immediate problems and discussed procedures with his superior.

In the course of the conversation the General mentioned that he had sent a wire congratulating Louis Saxl on his heroism. He also asked if arrangements for the Army plane to bring Louis's family out to Los Alamos had been made as ordered—and when would they be coming?

Probably today, the Colonel said, and all arrangements had been made.

At the end of the conversation, as it turned out, the General said that his secretary had just booked him for an appointment that afternoon with a distinguished party who said he'd had lunch with Hough only the day before.

"Look, General," said the Colonel, "I'd better give you a

little briefing on this Congressman. As a matter of fact, that's the next—"

"Well, I can't do it now, Houghie," the General said, "because my great and good friend Senator Bartholf is standing right at my door. Senator, come on in," Hough heard the General call. "Be right with you. Houghie, I'll be talking to you later. Thanks for calling. Good-by."

### 3

Sometime during this Friday afternoon the computing, calculating, analysing, reconstructing, measuring, estimating, and sheer guessing which had been going on for three days towards the end of determining the amount and quality of radiation released by the pile at the moment of the accident, and received by each of the seven differently positioned persons there, reached a kind of recess. Present at the time were Wisla, David, Ulanov, and two or three others. The recess was not announced, nor did it begin suddenly or in accordance with any schedule. Rather, the considerable talking which had been going on among these men gradually, over a period of half an hour or so, died out.

In that half-hour the last of the possibilities, protected and cared for and force-fed from the first, expired, and the probabilities which no one had been able to ignore from the first took full possession of everyone's mind. From the work of the three days it might now be said that there had been only one chance in ten that any of the six victims of the accident could have died from it; and only one chance in a hundred that Louis Saxl could have lived. Even now the radiation dose that Louis had received could not be stated with enough exactness for any of the men present at this meeting to have stated it. But there could no longer be any doubt that, whatever it was or might someday be determined to be, its order of magnitude had to be about

twice that of the dosage which radiologists and radiobiologists refer to as "lethal." These men could not speak with exactness either; also, they could err; but not by one hundred per cent, not by anything remotely approaching one hundred per cent.

"I'm not surprised," one of the hæmatologists from Chicago was saying to the other a little later that afternoon. "I'd have guessed about that, maybe a little less."

"His family *have* been notified, haven't they?" Dr Berrain said, turning to Dr Morgenstern, standing beside him in the lower corridor.

"Oh, yes," Dr Morgenstern said. "I talked to Colonel Hough just a little while ago. The Army's sending a plane down from Chicago to pick them up. They'll be here tomorrow. It's all arranged."

"I wonder if there's anybody else," Berrain said.

"Should anybody else be notified?" he asked Colonel Hough later.

"No, that's his family," said the Colonel. "Of course—well, let me talk to Thiel."

"Yes, there's someone else," David said. "I've been trying to get her. I'll take care of it."

"A reading-machine?" Dr Morgenstern inquired, staring at two men from the cyclotron shop who had found him near the doctors' conference room. "I knew nothing about it. Mr Thiel? I haven't seen him in some minutes. Perhaps Dr Berrain—"

"I see," Berrain said to the men with the machine. "I'm afraid you'll have to take it back. It was a very nice thought of somebody's, but I think it's not advisable—not now."

"Charley," said Berrain at the end of the afternoon, "may I tell you something—will you listen to me? I can say it two ways. I can tell you that your agonized expressions make you more trouble than you're worth and that I can no longer permit you to see the patient. Or I can say that what you've come to the end of is your hope, which still leaves Louis Saxl a few days to go before he comes to the end of his life. The latter seems to me more important. There's still a great deal to be



done for him if not for you. It wouldn't surprise me at all if we ran into quite a severe ileus—this can be most uncomfortable and can be greatly relieved with good treatment. We'll probably have to administer intravenous fluids almost continuously before long—but we can and they can help. God help us if we get to bad hæmorrhages, but maybe we—and Briggles's dyes—can help God a little even if we do—help Louis, too. There's just no telling what all we'll run into when the white count begins to fall off—which, incidentally, it hasn't done as yet. Do you want to lend a hand with some chores which won't accomplish all you or any one of us would like?"

"For Pete's sake," said Pederson to Betsy at the beginning of the evening. "*Will* you try to look not quite so desolate? You can't go in there looking like that."

If only, Betsy thought and thought again, if only they hadn't done it on Tuesday the twenty-first, if *only* they'd waited just a day.

David tried eleven times without success to reach Theresa, but on the twelfth he reached her. It was then a little after seven o'clock at Los Alamos, but in New York it was a little after nine. Theresa had just come back from dinner with her father; this time she found the Western Union notice which had been put in her mailbox an hour before; she called and a voice read the message to her; she had hardly put the phone down when it rang again. She said "David!" and she said "Yes, just now, just this minute"; and then she listened to what David had to say.

After a while she put the phone down again. The suitcase she had yesterday put away she took out again, and some of the clothes she had yesterday put away she took out again. And for the third time the telephone rang. It was Western Union; there was a wire for her; a voice read it to her.

"But you just called me with that! Just a few minutes ago!"

"This is not the same message, miss. This one came in yesterday. We left a notice, but you didn't call."

"I didn't get a notice. It's the same telegram!"

"I'll check it, miss. . . . Hello? Why, those messages originated in different offices. The one we left the notice on yesterday was sent from Santa Fe, New Mexico, at four forty-one their time, that's six forty-one ours. The one we left the notice on today originated in Los Alamos, New Mexico, and was sent at three eighteen."

"But they're the same! Will you please read them again?"

They were identical. For just an instant as she listened she was held by the thought that there must have been another message intended for the second one, that by some terrible mistake this other message, saying something worse or better, had been mislaid and lay somewhere now unread by anyone. But of course—

"Thank you," she told the Western Union voice. "It's all right. Thank you."

—of course the only thing that counted she had just heard from David.

She called the air terminal. Then she remembered she had no money. She called her father. He did not have enough cash on hand. But he would get it; he would meet her at the terminal. Then she called the terminal again. There were no seats to be had. She hung on, and pleaded, and cajoled; hung up in despair, finished her packing, and called again.

"Well, miss, I can do better by you this time," the voice of the terminal said. "I just got a cancellation. You're in luck tonight."

#### 4

"'One who has partaken of the amber fluid not wisely but too greedily is heard to raise a voice angrily,'" David was reading. "'There is a scuffle of feet, a scraping of chairs. The angry one aims a haymaker at the party who aroused him. But just in time, an alert MP grasps the arm of the pugnacious character firmly,

utters a quiet word or two of authority, and hostilities are averted. Here are the metals of a hundred nationalities, minted as one coin and stamped with the American eagle, jangled together in a common exchequer—”

“Block that metaphor,” Louis said.

David lowered the paper; it was a copy of the *Los Alamos Times* which Betsy had brought into the room, which Louis had seemed to consider with some mild interest, and from which David had been reading selected items for the past few minutes.

“But don’t stop,” Louis added. His head was back high against the top of the bed, which had been cranked up. He was looking away from David, towards the window; and in this position he conveyed nothing so much as absolute boredom. He had hardly moved since David had come in at about seven thirty, and it was now nearly eight. At eight o’clock the third and last blood sample of the day would be taken; some examinations would be made; and the preparations for the night would begin.

“Are you sure you want to hear more of this?” David asked.

“Very sure.”

“‘Old America, in the persons of swarthy, hair-braided, stolid-gazing Indians,’” David continued. “‘Brash young recruits of the Army, who were dating bobby-soxers when the fall of Corregidor was a grim headline . . . plainly dressed, mildly-borne men of science. . . . At various tables, young couples go through the harmless primary stages of love-making. No one pays any censorious attention. This is the prerogative of youth from Los Alamos to Nagasaki. . . . This is your Service Club, the hub of the Hill people’s neighborly communion with each other.’”

“End of story,” David said.

Louis said nothing.

David turned the paper; his eyes moved quickly over the page; he was a very fast reader and he read even such little things as he was now culling with a great intentness.

“‘The Bus Committee of the Town Council says the possibility of decreasing the noise of buses should be investigated.’”

"'The latest Army reorganization plan calls for the continental United States to be divided into six Army areas.' That sounds ominous.

"'Community planners are figuring on a bathtub for every permanent unit, it was learned from the office of Colonel Cornelius Hough this week.'

"That could be ominous, too. I don't think anyone knows where the bathtub originated. Didn't Mencken say President Fillmore put the first one in the White House? With the Romans, of course, bathing was a public diversion."

Neither of them said anything for half a minute.

"We could make a public bath of the pond perhaps," Louis said then; his voice was polite and uninterested, but David got an impression from something in the way the words were said, or from the pause, that it had taken a real effort to work them out. They sounded wholly unlike Louis, and they gave David an uneasy feeling.

"That's a fine idea," he said to turn them off, to absorb and supplant them.

He noticed now that Louis was looking at him, had lowered his head a little and was not so much looking as contemplating, with a rather puzzled expression. Then he shook his head, or seemed to—the motion was barely perceptible—and turned to face the window again.

"Dave," he said after another pause, and in a voice a little less formal, although not much so. "I was thinking of that day we first met. Gene Voss was there."

"Yes. That's right. You were wondering about going up to Chicago."

"Yes. I've been thinking about Voss."

He turned his head toward the door. Betsy was standing there, looking in on them with desperate cheerfulness.

"Time for a little donation," she said. "Last today. May I have a wee drop, sir?"

David put his hand up to his face. Louis continued to look at Betsy, but he said nothing. Then both of them watched while she took the blood. As soon as she had finished, Louis turned

back to face the window again. But David watched her all the way through the door and out into the corridor.

"You were talking about—" David began.

"Yes," Louis interrupted. "Would you read me that poem again, Dave?"

David puzzled over this for a moment.

"Betsy read you one. Is that the one you want?"

"Didn't you read it?"

"Betsy said— I'm damned if I remember, Louis. I think maybe you're right."

"It doesn't matter. Frost is a very economical man."

David knew well enough which poem it was; he found it in the anthology he had brought over and, speaking slowly and softly, he read it:

*"Some say the world will end in fire,  
Some say in ice.  
From what I've tasted of desire  
I hold with those who favour fire.  
But if it had to perish twice,  
I think I know enough of hate  
To know that for destruction ice  
Is also great,  
And would suffice."*

"Have you seen Voss lately, Dave?" Louis asked, turning his head back once more to look at David.

David continued to look down at the book. He was not sure how to answer this question; in 1942 Voss had tired of all actions other than the most direct and had thrown over all his work to enlist; he had been dead three years.

"No," David said finally.

"It doesn't matter," Louis said, turning once again to the window.

In the lower corridor near the foot of the stairs Dr Briggles, standing and talking of a variety of things with Mr Herzog,

watched Betsy come down the stairs from Louis's room and noticed what she had. He excused himself to Mr Herzog and walked after her down the corridor which ran back to Dr Novali's little laboratory. Four doctors were coming forward from there, including Berrain and Pederson. They side-stepped towards the wall to let her pass, and they all looked at what she had. Two of the doctors turned back to follow her. Berrain looked at his watch.

"We're five minutes late," he said to Pederson. "Are you coming?"

"Let's go," said Pederson.

Halfway along the corridor from the top of the stairs to Louis's room they saw David appear at the door of the room and then walk towards them rapidly. He took hold of Berrain's arm and pulled him back farther from the room, and Pederson went with them.

"He's getting mixed up," David said in a low voice. He told them about Louis's question and about Voss. "Can you do anything?"

Berrain looked at Pederson and then back at David.

"He may come and go for a day or so. There'll doubtless be several reactions to the toxins—some uremia. That little business with Wisla yesterday was a touch of the same. Yes, we can help out some. Come on, Charley."

In the little laboratory room Novali put the blood in a chamber. He bent over it and the others bent over Novali. When David reached the room all he could see was the backs of people. Then Briggie turned away. He looked at David, spread his hands in a gesture of helplessness, and walked on out. Betsy let out a tiny gasp; she turned so suddenly that she bumped squarely into David; but she said not a word; tears were streaming down her face, and she looked straight ahead and walked out. The others broke apart. Novali remained.

"What's the count?" David asked him.

"About nine hundred, Dave. Maybe a little bit more."

**5**

The small charge of excitement that had been generated in the hospital on Thursday morning, when Dr Berrain had gone to work, died on Friday afternoon. It left a vacuum in which, after the blood count of Friday evening, the doctors and nurses seemed to walk aimlessly. But this did not last long. Throughout Friday night the vacuum was filled first by a resignation which at least permitted everyone to function, and finally by a determination with which they functioned very well. Louis was left alone no more, not even for a minute. He slept and was awake by turns, grew steadily weaker, and continued to take a detached interest in everything.

At about one o'clock in the morning he woke up after a brief sleep and turned his head to see Dr Morgenstern sitting over in the corner between the two windows. The light on the little table there was off, but the door to the room was more than half open and dim light from the corridor just caught Morgenstern's face.

"Hello, Major," Louis said.

Dr Morgenstern did indeed have a commission, but hardly anyone ever thought of it even when he wore his uniform; something in his nature or his manner was simply too unmilitary to allow the title to take hold, except as a kind of occasional nickname—a friendly one, as Louis used it now.

"You go right back to sleep," Dr Morgenstern said. "You were doing fine."

"Sleep, sleep," Louis said. "What time is it?"

"Can't see my watch here. I'll tell you in the morning."

For quite a long time Louis said nothing, while Morgenstern sat motionless, holding his hand to his head and peeping through slightly separated fingers.

"There used to be a flower there on the window ledge. I'm sorry it's gone."

"It isn't gone. The nurse put it down on the floor for the night. Do you want it back up? Will you sleep then?"

Again there was a long silence.

"No, put it back in its cranny."

"What are you going to do after the war, Earnest?" he asked after another silence. "Do you enjoy Army doctoring?"

"Doctoring's pretty much the same one place as another," Morgenstern said; he got up from his chair. "How about a little codeine? You really must get some sleep."

"Just a minute, Earnest," Louis said, speaking faster and in a louder voice. "Time enough for that, just a minute."

Morgenstern stood beside his chair.

"Something moved then, something's moving," Louis said, quietly again. "Earnest, my nose itches. Will you rub my nose for me?"

Morgenstern came over to the bed and did this. "Does that get it?" he asked.

"More to the right—that's wonderful," Louis said. "Why are you here so late?"

"I work here," Morgenstern said, smiling down at him. "No, really, I just dropped by. You were a little fidgety. You need sleep."

"You probably need sleep more than I. Are there any secrets between us, Major?"

"No, Louis."

"Secrets are the terrible thing, particularly when there are none. They lead to such illusions—how you come to fear and hate whoever breaks them, or tries to. Do you hate anyone?"

"I don't think so, not really."

"Fear anyone?"

"I suppose—I suppose I can think of some I fear."

"Like children fear the dark. There are some things that must be feared. Of course. For a while. Do you know what I fear, Earnest, almost most of all? That it might happen without any real meaning on anyone's part. That it might just be somebody's mistake."

Louis moved his head slowly from side to side two or three times.

"Good night, Earnest. I'll sleep. I promise you, I'll sleep."



On Saturday morning Louis's white blood count was down further to approximately three hundred cells per cubic millimeter. His body was now defenceless against any infection, although there were no signs that any had taken hold. To make sure that none did, Dr Berrain ordered that the penicillin injections be given every three hours from this point on. For some mixture of reasons he could not have explained even to himself, Louis had said nothing so far about the soreness of his tongue across from the gold-capped tooth; but this morning, soon after he awoke, while he was getting his daily blood transfusion, he called attention to it. A small, whitish, ulcerated lesion was found on his tongue, and the tooth cap was promptly covered with gold foil to contain its radioactivity. The swelling of the left arm had reached to the shoulder, but nothing could be done about that. The freezing kept the pain in control; underneath the ice both hands were bluish-grey.

The front of Louis's body, from the forehead to the feet, over the tanned and the untanned parts alike, was slowly turning a deep red. The photographer was in to record changes; Betsy took her post again and did everything she could think of doing, talking or keeping silence in accordance with such private assessments as she could make of Louis's preferences. He was for the most part silent; there was very little strength in him; there seemed less interest than before. Even Berrain thought things were progressing faster than might have been expected. But on the charts, the curves for the temperature, pulse, and respiration still were jagged lines of ups and downs, still not far above normal. There was no extravasation of blood at the needle punctures, no signs of spontaneous bleeding—no need, in short, for Dr Briggles and his dyes.

In the corridor near the head of the stairway, towards the middle of the morning, one of the doctors mentioned the pathologist sitting and waiting in Santa Fe.

"What's his name—Bell? What do you think? Should someone get in touch with him?"

"Not yet," Dr Berrain said. "No reason as yet. Pederson's been keeping in touch with him. His name is Beale."

He thought about what he had said for several minutes afterward; there was really no reason any longer for Beale to stay holed up in Santa Fe; it occurred to him that they had perhaps been somewhat alarmist in having him stay there at all, but at all events he might just as well be at Los Alamos now, except—except that no one wanted to see him, to put it bluntly. It's easier on Beale to leave things as they are for as long as we can, Berrain reflected; much easier on Beale.

A little before noon Berrain went into the doctors' conference room. Louis was asleep; everything was under control, which meant that nothing they could deal with was out of control. Berrain had got to the hospital before eight this morning; he was tired already; it had been nearly one when he had left the night before. But he was also keyed up, as much that as the other. Wisla was in the room, standing by the window that overlooked Truchas.

"Mr Wisla," Berrain said, "would you like to go out for a small ride?"

Wisla turned from the window.

"So? Everything is quiet?"

Berrain shrugged his shoulders; Wisla nodded his head slightly.

"OK."

"I have Louis's car. Do you have any feeling about that?"

Wisla looked at him with some astonishment.

"About riding in it? No." Wisla was walking toward the door, but then he stopped and looked at Berrain again. "About Louis not riding in it, yes. But then I have many feelings like that."

On the way out they ran into Ulanov and asked if he wanted to join them. A few minutes later they were out beyond the main gate, on the road that led to the valley. Men were working on it; squat trucks were parked here and there precariously on the edge of the road or in little work spaces hacked back into the canyon walls. From time to time the whole sweep of the valley showed itself to them; then the trees and the walls closed their vision to a few feet. Wisla looked straight ahead, Ulanov looked

at everything, and Berrain kept his eyes on the edge of the road.

"It would have been better to go the back way," said Wisla.

"Oh, no!" Berrain exclaimed. "This is a marvellous road, a fascinating road."

After a few moments Berrain began to talk about what an incredible place Los Alamos was, what a laboratory of opposites, extremes, and even cross-purposes—intellectuals and workmen, scientists and technicians, foreign scientists and American scientists, theoreticians and experimenters, all of these on the one side more or less and the military men on the other—and then besides one had to think of it at one and the same time as probably the biggest and best-equipped scientific laboratory in the world and the biggest arms factory, and therefore as a kind of double symbol of the future and the non-future of the world.

"Perhaps the place to demonstrate whether God does or does not play dice with human beings," he said.

"It is all of these things, to be sure," Wisla said. "But that phrase has a rather nice meaning which I prefer to the one you give it. However, even your meaning doesn't fit. The dice-playing is with ourselves. Perhaps God looks on—with amusement perhaps? maybe a little sad."

"He saw a very bad roll this week, whichever," Ulanov said.

"Didn't He?" said Berrain. "Didn't He? Tell me, is that true about the dates of the two accidents—this Tuesday-the-twenty-first business?"

"So I heard," Wisla said, in a bored voice.

"It is much more to the point," Ulanov said, in a bitter voice, "that he had an argument with the Army over remote control the morning of the accident."

"It is not impossible that both might have touched the point," Berrain said placidly. "I am not urging the cause of superstitious explanations. Still, it sometimes takes a little mental energy to resist them—they are so simple. And then sometimes they do cross a mind—even a very good mind—perversely, at an inconvenient moment. However—"

Nobody said anything more for quite a while; the road flattened out and straightened out; Berrain turned north towards the

little town of Espanola, a few miles up the Rio Grande; Wisla drummed steadily on the car door.

"There's a chocolate bar in the glove compartment," Berrain said. "Would anybody like some of it?"

Wisla took it out and they all ate it.

"Speaking for myself, I'm feeling better," Berrain said then. "Do you want to go on? Shall we turn back?"

They were almost at Espanola. They crossed the bridge which spans the Rio Grande here and drove on into the little town. The proximity of Los Alamos's thousands had changed it from a quiet village to a semi-commercial stop; there were new stores and a new filling-station; the filling-station had just opened and was bedecked with banners and signs. Berrain drove into it and had five gallons of petrol put in the car. Then they started back.

"Neither of those things is to the point," Wisla said after they had driven a mile or so in silence. "Still, this thing so hard to explain has a relation to some sort of superstition—to the secrecy and the bad things this secrecy gives a sanction to. What is this almost touching belief in secrecy but a superstition? Is there anything less eligible to the protection of secrecy than a law of nature—most especially one that everyone knows? These Congressmen in Washington say all the time: 'We must keep the secret.' I have given up asking them: 'What secret?' The question means nothing to them. They think because we have something that others do not there must be a secret, forgetting where we got it. If we made Russia a present of one of our bombs it would take them a year or two to get themselves ready to make their own. Since we won't do that, it will take them three or four. If they had never seen an automobile, it would be about the same—if automobiles could blow up cities. Who are we arming? Ourselves of course—but equally of course all possible enemies. In the long run, except it is not so very long, there is no distinction in a business like this. Naturally, no one pays attention to such talk."

"I do," said Berrain. "It is very interesting. I have not heard it just that way before."

"But it does no good to put the blame on even the Army,"

Wisla went on. "The Army is trained to make cops-and-robbers games of everything, which can ruin science, although only the scientists really object to that. The argument is not finally with the Army, however. The Army will be succeeded by something and somebodies who will also play cops-and-robbers, although less dangerously, I hope. The argument is with a temper or a distemper which requires secrecy as a first resort for anything at all in science which might have a military use. As to that, look around. There are fears and suspicions all over, there is a sickness, perhaps with such symptoms, possibly the result of those things. This is beyond my capacity. But the secrecy—I know what that is, it goes right along—if you are sick and do not wish to know the progress of your disease, you cover it with secrecy—secret arms factories and secret piles of secret papers, in the present instance.

"But one dies anyway," he added. "Perhaps sometimes even faster. Perhaps sometimes from causes which might have been treated, except for the secrecy. Is it not so, doctor?"

"One dies anyway," Berrain agreed. "I wonder the pillars in the Willard bar don't collapse at such talk, along with some Congressmen." He seemed amused at the notion, but also he seemed actually a little nervous about it, too. "What would you do against all this, by the way? Would you just give the bomb to the Russians?"

Wisla laughed.

"Einstein proposed that since the Russians don't have the bomb one should invite them to draw up the draft constitution for a world government. Isn't that eccentric? Absolutely impossible! Its only merit is that it deals with the central issue. No. I do not propose giving them the bomb. We would not trust each other more after such a gesture than before—not enough anyway. It would be nice, however, not to do ourselves in trying to keep them from it—especially since we can't. This secrecy, which is a superstition, is worse than that. Regrettably, it corrupts us. Inevitably, and in the name of security, which it serves so poorly, it will weaken us with bad work. But, worst of all, it can possess us, or the devils that it breeds can—the fears and the suspicions

and the hates. This is not the way to prevent a war, or even to make us strong in the event of one."

"And like the Gadarene swine, we shall rush possessed to destruction," said Ulanov, smiling ironically to himself, looking out of the window of the car.

"A possibility," Wisla said in a very solemn voice. "Myself, I think mostly of those that Hermann Broch called the Sleepwalkers. Whose feelings are more numbed—but mainly, whose progress is more shrouded in secrecy—than a sleepwalker's? However, sleepwalkers are sometimes very lucky." He gave a loud laugh. "Maybe we shall all be lucky, hey?"

Berrain nodded his head two or three times thoughtfully, but he said nothing. Ulanov's ironic smile stayed. Wisla began again to drum on the edge of the car door.

After this Ulanov began to talk about the early days of the project and to tell anecdotes about this person or that. In one of these he referred to Louis's "purity" in a passing way, and Berrain picked up the word and asked him what he meant by it.

"It is true enough," Wisla observed.

"But I mean—"

"I will illustrate," Ulanov said. "For example, during those Chicago days, in 1942 and early 1943, there were many painful moments—painful, that is, because we would find out something or accomplish something of great novelty and couldn't say anything about it. The first chain reaction was of course the big moment. But there were many littler ones. I remember thinking in those days myself how nice it would be to pick up a newspaper and see a big headline—"New Mexico Site Picked for Bomb Development"—or "President Pushes Button to Open Big Hanford Plant"—"Clinton Reactor Goes Critical"—everything would have seemed so much realer. People were somewhat frustrated, working so behind doors. But not Louis. He never seemed to feel this need. It did not bother him—that is, this aspect did not bother him. This takes a kind of purity—not a feeling for secrecy, it would have been the same if there had been headlines, they simply were not of the important things—a kind of purity which impressed me very much."

"It is not so remarkable," Wisla said. "There were many like that. Still, it is true enough," he said again.

By this time Berrain had taken the car again around the curves and the trucks and the men at work improving the road. He reached the flat stretch before the main gate, and just as he did an Army sedan with a soldier chauffeur went swiftly by. Colonel Hough was in the front seat; an older man and woman and a pretty, black-haired young girl of about twenty were in the back. All of the heads turned; the girl could be seen saying something in obvious excitement.

"Do you suppose that's—" Berrain began.

"Yes," Ulanov interrupted, "that's his family and this is his car."

## 6

At the hospital there was confusion. As Berrain, Wisla, and Ulanov came through the door they saw Colonel Hough standing at the foot of the stairway to the second floor. He was talking to two Military Police, his voice was controlled enough, but plainly he was very upset.

"And just who gave that order?" they heard him say.

Mr and Mrs Saxl and Libby were standing a little way back, rather huddled together and looking very ill at ease. Then David Thiel appeared on the stairs behind the MP's; he pushed down between them, paying them no attention at all, and went over to the Saxls. Wisla walked forward to join them; Ulanov started forward, but drew back.

Still talking to the soldiers, Colonel Hough was also looking over his shoulder towards his charges every few seconds; he seemed to want to join them and to be rooted where he was. But with David and Wisla they now started towards the door of the hospital.

"All right," the Colonel said. "Now get the ones upstairs and get the hell out of here, all of you."

"Yes, sir," one of the soldiers said. The other disappeared up the stairs.

The Saxl family passed right by Berrain and Ulanov. Berrain looked at David, who shook his head. Mrs Saxl took her husband by the arm and whispered something to him.

"We are more than seventy-five hundred feet high," Wisla was saying. "The air is a little thin but very pure." He was apparently speaking to Libby, although he was not looking at her.

They went through the door, out of the hospital. Colonel Hough took a step after them, stopped, stood irresolutely, then turned back and walked rapidly down the corridor to the doctors' conference room. Just before he reached it he stopped again and looked back at the soldier still standing by the stairway. A small clatter of footsteps could be heard coming down; three soldiers appeared; the one standing there fell in with them and all four strode to the hospital door and out.

All this time, although it had not been more than two or three minutes, Berrain and Ulanov had stood watching. Now Berrain, without a word or a glance at his companion, made for the stairway; and Ulanov, equally intent, walked down the corridor to the conference room.

The Colonel was talking on the telephone. He continued to talk for several minutes, while Ulanov stood around, listening. Once or twice the Colonel stared at him, as though to open his mind to the possibility that he might stand around some place else; but Ulanov either didn't notice or chose to ignore the stares. From the Colonel's questions and comments—he was talking to his deputy, a lieutenant colonel—it was clear enough that General Meacham had called while Hough had been away picking up the Saxl family in Santa Fe; and that the deputy, out of unconscionable stupidity or worse, had chosen to act on a thought which the General had passed on apparently for Colonel Hough's consideration.

"It wasn't an order, was it?" the Colonel demanded.

"So it wasn't an order, was it?" he said after a moment.

"Well, then, you goddammed fool, why couldn't you have waited thirty minutes?"



When he finally put the telephone down he stared at Ulanov again.

"The Congressman?" said Ulanov.

"Is it really any business of yours?" the Colonel asked.

Ulanov's assessment of the Colonel was that this was really not a note which he could sustain; Ulanov said nothing.

"What the General did was perfectly reasonable," Colonel Hough said finally. "The trouble was he had to deal with screw-balls at both ends."

What the General had done, it came out, was to give ear to the Congressman's notion that if Louis were as sick as the doctors had said, at the very least guards should be placed around his room to prevent the possible disclosure of nuclear secrets to possibly uncleared visitors in possible moments of delirium. The Congressman had heard about an incident at Oak Ridge during the war when a whole private hospital wing had been constructed to house a man there who had had a nervous breakdown. The Congressman had apparently told the General that he considered the present situation an even graver threat to the security of the nation because of Louis Saxl's questionable activities in the past. The General had given a running summary of the Congressman's views to Colonel Hough's deputy and had told the deputy to talk to the Colonel about it; not being on the scene, the General had felt unqualified to make the decision himself.

"What else could he have done?" the Colonel demanded. "Perfectly reasonable," he said again. "But then this halfwit takes over," he went on, "and decides all on his own to order out the MP's and *then* talk about it."

"Uniforms," said Ulanov

"If you want to know the truth," said the Colonel, "you give me an awful pain in the neck. Uniforms or no uniforms isn't the point. There's a certain elementary respect due a person. And think of what that must have done to his family! Did you see their faces? An elementary respect—"

The Colonel walked out. He was going to talk to the General, but he would do that in the privacy of his own office.

Under the ministrations of David Thiel, whom they had met some years before, and of Wisla, who impressed them very much, the Saxls went across the street from the hospital to the Lodge, where rooms had been got ready for them. They spent half an hour assembling their thoughts and their feelings, and they changed their clothes. Then they returned to the hospital. Louis had awakened from his sleep, felt no worse, and, under the ministrations of Berrain and Pederson and Betsy, had been prepared for his family to the extent that preparations could be made. It was a painful reunion, for the simplest as well as for the most complicated reasons. The ice troughs jutting out both ways from the bed were an impediment to movement; Louis's father and sister did not know what to say or how to say it; and his mother, who knew or thought she had known, fell silent almost as soon as she had looked into his eyes. Louis greeted his family politely—it was the only word that could be used. He tried a little joke with Libby, but his mind was so far from the words, there was so little meaning or spirit in them, that they curled and made almost an ugly sound in the air of the room. He spoke to them, then turned his head on the pillows and gazed out of the window at his right; and then turned his head again and looked at one or another of them; and whatever he did, a silence followed it.

Mr Saxl walked over to the window and looked out, and Louis's gaze followed him.

"It's pretty at night," Louis said. "There's a light around at the end of the hospital—"

He did not go on. He looked back to his mother and this time his eyes and his features softened a little. But a second later he was looking right through her, or not looking at all, only sitting with his eyes open and watching intently something deep inside them.

After a few minutes Charley Pederson came in. He did what he could to break the hush that had settled over the room, spoke cheerfully, and louder than he usually spoke. Then he took them out; Berrain was waiting in the corridor. Walking slowly down the corridor, and down the stairs, and choosing his words with

great but unostentatious care, Berrain told them what he felt he should.

Near the door of the hospital David was waiting. He took over from Berrain—although none of this was prearranged, it seemed so—and walked with the Saxls back to the Lodge. He stayed with them, and there, after a while, in Mrs Saxl's room, the damned-up feelings broke loose. Everybody cried, even Mr Saxl. Words poured out, and the silences were rich and alive with meanings and understandings. The excitement of this release made Libby gay; she told a funny story about Louis and a girl at home in Georgetown, and started to tell another. But she stopped in the middle of it; the gaiety was gone and the story was suddenly horrible. They all sat silently again. Then, one after the other, the members of the family began the small preparations of establishing themselves for what was to come—unpacking, laying out toilet articles, hanging clothes. In the midst of this David left them. Halfway down the stairs from their rooms he heard Mr Saxl behind him.

"Is there some place I could get a bottle of whisky, David?" he said. "Is that possible? Would it be a trouble?"

## 7

Theresa came up to Santa Fe from Albuquerque, where she had got off the plane, by bus. The plane ride had been a ghastly ordeal; the weather had not been good, there had been a long wait in Chicago, and worst of all there had been no place to bury her head, no way to be alone. In her seat by the window she had had to sit up, to be conscious of the person sitting next to her—whom she had forgotten already—and to think the thoughts she could not escape, looking out into the enormous sky. She had been grateful only for the roar of the engines, which had served her several times during the night as a shield for the sound of her crying. Since the sun had come up she had done no crying. Soon the sun would be going down again—it was already

nearly five—and what the night would bring she knew not.

The road was straight and flat; the countryside was barer on this side of Santa Fe than it was on the other; the bus went along steadily. It was half full. No one was sitting next to her. Since she had not slept at all—or possibly for an hour or so, she wasn't sure—she felt tired and drained and dirty. By now she wasn't thinking much of anything, except for one thought that moved round and round the rim of her mind, exhibiting itself in many aspects; it had started moving while she had been listening to David on the phone the night before, and it had not stopped moving since. The thought, in its simplest aspect, was only that she had written her letter on the train before this terrible thing had happened to Louis and it happened even before the letter could have been given to him, if it had been given to him. There was nothing to be made of the thought, in any of its aspects; some of them tortured her; none of them helped her. The thought moved and faded and flared and was like a tiny light, too dim to reveal anything, too bright to let her have peace.

She sat perfectly quietly, hardly looking at the land and the sky that had cushioned and crowned their plans of less than a week ago. And so at last she came to Santa Fe.

The bus came to its resting-place just down the street from the sprawling pink hotel in the center of town. Theresa took her one bag and set off, walking quickly. The bag bumped against her legs and at almost every step upset her gait, but she paid no attention to this, although it made her progress uneven and made it seem almost rakish. The bus driver, standing on the sidewalk, turned to watch her. A very little Spanish boy ran out of a doorway and collided with her. The sidewalk was full of people, but she moved among and between them, going faster than any of them, and with some of that special intensity that often seems to signal ahead its coming to clear the way.

A week ago she had been driven through Santa Fe, coming and going; she had been given a small taste of its flavour; she knew nothing of its streets. She had come west by train and Louis had met her at the little Lamy station (where, only five days ago, she had seen him fade into the night). On the way up to Los

Alamos he had taken her through some of the narrow and winding roads of the town, along the river, round the Cathedral, and past a long, low wooden building with a wooden arcade in front. Back in there, he had said, there was a patio and on the patio was the Santa Fe office for the Los Alamos project. A very nice woman ran it; it was the second-oldest building in Santa Fe; some funny things had happened there in the early days of the project; it was where he had gone when he had first come out from Chicago; once—

"Your eyelashes have grown, I think," she had said then.

But she remembered the fact of the building, which was important, because otherwise it might not have occurred to her that the Los Alamos project had a Santa Fe office.

In front of the hotel she stopped and put her bag down. A man was standing there, smoking and looking blankly around. She approached him, described her building, and asked him how to get to it.

"I don't know the town myself," he said, "but that one I know." And he told her where to go. Then he turned and watched her, too.

The building was only a block and a half from the hotel. She recognized it as soon as she saw it. It housed a whole series of shops and offices, and she walked more slowly under the arcade looking at the signs; there was a bookshop, and then a law office, and an art gallery, and a Woman's Exchange; there were several more, and then a doorway leading back into the patio, and by the doorway, so inconspicuous that at first she didn't notice it, a sign which said "Los Alamos Scientific Laboratory."

In the patio there were more shops and offices, and she walked past these; the one she sought was on the far side. She entered it, and a woman with gray hair and a young face looked up at her; two men sitting on a bench in a half-separated room looked up, too. She walked over to the woman, still carrying her bag.

"My name is Theresa Savidge," she said. "I came to see a friend at Los Alamos. How can I get out most quickly?"

"Has your clearance been arranged?"

"I don't know."

"Well, does your friend know you're coming?"

"I don't—yes, he does."

"You don't know whether he's arranged a visitor's pass for you?"

"No. One may have been arranged. Probably it was. I'm sure it has been. He's had an accident. What's the quickest way to get out?"

"What is your friend's name?"

"Louis Saxl."

"Oh," the woman said. "I see."

"What is the quickest way to get out?"

"If you'll just put your bag down, and have a chair, I'll call out right—"

"What is the quickest way to get out?"

"Please, I'll—"

*"What is the quickest way to get out!"*

The woman jumped up from her chair and the men jumped from the bench. But Theresa, although she wavered and staggered one step, did not faint. She put her bag down and leaned up against the woman's desk. She raised one hand and caught her hair, and then tossed her head back.

"I'm sorry," she said. "Please forgive me. I'm terribly anxious to get there as soon as I can. I only heard last night."

The woman had come around from behind her desk and had her arm around Theresa now. Saying many soothing words, ordering the men to get water and coffee, she guided Theresa to a chair. She patted her on the leg and automatically, without knowing it, tried to smooth out some of the wrinkles that the long journey had worked into Theresa's suit. One of the men brought a cup of water; the woman watched approvingly as Theresa sipped it, said more assuring things, and then returned to her desk and rang Los Alamos.

It turned out that a pass for Theresa had been put through by David Thiel; it was waiting at the gate.

"Someone might have let us know," the woman said coldly into the phone. "Not necessarily you. Just somebody," she added, hanging up.

A staff car, she then told Theresa, was due back any minute from a trip to Los Alamos; she would turn it around and send it right out again with Theresa. And in about four minutes the soldier driver of the car walked in. The woman told him; he shrugged his shoulders, took Theresa's bag, and held the door open for her. He watched her as she walked through, nodded approvingly at one of the men standing in the office, and then followed. The woman went over to a small chart stuck up on the wall behind her desk; it was a trip record for the staff cars, with spaces on it for the car number and driver, the time of each trip, the authorization, and the name of the passenger. The last name on the list was "Dr Galen Beale." Under this she wrote "Miss Theresa Savidge." The man who had gone for the coffee came in with it. The woman said she'd drink it.

In the staff car, Theresa smoked a cigarette, took her shoes off and wiggled her toes, straightened her stockings, and studied the wrinkles in her suit. For the first few miles the soldier tried conversation. After a while Theresa opened her handbag and took out her lipstick, her compact, and her comb. For the next few miles, while the soldier watched through the rear-vision mirror as carefully as he could, she attended to her appearance. After the road crossed the Rio Grande and began its climb up toward the mesa, they talked a little. The soldier had taken some very famous people back and forth, and he mentioned some; Oppenheimer had impressed him most; his eyes got into you like bayonets, the soldier said, and he scared your pants off just by looking at you, but you could see at once what a brain he had, and still he was a nice guy, everybody said so, and the soldier certainly couldn't say different.

"I wouldn't want to be him, though," the soldier added.

"Why wouldn't you want to be him?"

"Because I like to get my sleep nights. I wouldn't want to be any of them."

"Oh, I see. Were you in the war?"

"Yes'm. I was in some of it."

"I suppose you got your sleep nights after doing whatever you had to do."

•  
"Yes'm, I know about that. But it's some different between one at a time or even a thousand at a time and a hundred thousand at a time. That's not the point, though. The point is, what did they get hold of here? And have they still got hold of it?"

Theresa made a little sound of impatience and rather elaborately rearranged herself on the seat so that she was half-facing the side of the car. She had got a second wind, she had lost some of the tautness and bleakness that she had had all night and all day, but now she felt them coming back.

"Maybe you should talk to some of them, maybe you should find out better what you're talking about," she said, feeling that this was just as stupid as it sounded but not caring.

"Oh, I've talked to lots of them. But then I was reading in the paper just the other day about one of them saying there wasn't more than one chance in God-knows-what, a trillion maybe, that these Bikini bombs could blow up the world. I said to myself, this seems pretty safe odds. But then I said to myself, hey! how come any odds at all? Who's running this show anyway? I sort of get to wondering every once in a while whether anybody knows the middle and end of what's going on as well as the beginning."

The soldier spoke blandly, but with a kind of nagging, insinuating quality of voice that Theresa seemed to hear with her teeth rather than her ears; her nervousness was mounting, but she could think of nothing to say. As for the soldier, he was having fun. Of all the ways he had devised to relieve the boredom of these interminable trips, baiting the visitors along these lines was much the best; he got the most astonishing replies, and he had really become very accomplished at it.

"Like that school story about the guy that discovered fire, and then the gods tied him to a rock and the vultures been pecking at his liver ever since. Could be some things aren't meant to be discovered. Could be—"

"Oh, will you stop talking!" Theresa cried. "Won't you just please leave me alone!"

This was the most astonishing reply the soldier had ever got, and he said nothing more for the rest of the trip.



At the gate Theresa's pass was ready for her. There was a note there for her, too, from David; it told her that she should go straight to the Lodge, where a room was waiting for her, and that if she wanted to see the Saxls they would be there, and that if he were not there when she arrived he would be there as soon as he could.

At the Lodge she ran into Libby Saxl just inside the door. Without a word they took hold of each other, and embraced each other, and clung together for a long time; the tears they wept this time were good for them; and when they started upstairs to Mrs Saxl's room Theresa felt, for the first time since she had left New York, that life held something other than death—even though within a few hundred yards one way or the other (she did not know just where) death was waiting.

## **B**

"You have told me everything except one thing," said the man sitting at the table. "Maybe no one can ever tell that, my son least of all perhaps. I've known it to happen when a thing goes wrong, a sudden thing like this, why, the person hurt sometimes can't tell you as much as someone else, who maybe didn't even see it. I wonder if you haven't a feeling about it, or more than that, a suspicion even. It would do no good, of course, except to know is better than not."

The voice stopped. In the fading light that came through the bank of windows across one end of the room, the man who spoke was hardly distinguishable, nor the table at which he sat, one of many dim bulks in the near-dark. He let his wonder hang from his words, testing the willingness of the young man at the window to answer without being asked, and the words hung in the room, but there was no answer.

"Was it really unavoidable?" he said finally.

There was only enough light coming through the window to

show the outline of the young man's head, not enough to show any of the modelling, and so in the room his head looked like a cutout of black paper held against the window rather low, for the body that held it there was small and fatigue made it smaller. When he spoke his voice vibrated, not with badly controlled emotion, but with tiredness uncontrolled; the words, for this distant and opposite reason, seemed to carry a charge that was not in them. But even the words were tired and meant nothing.

"I'm not sure it's better to know, Mr Saxl, not always. If one could be sure or use the knowledge one way or another— But just to know for the sake of knowing—in some things anyway, things like this—"

"Louis used to say that's the way the very biggest secrets were discovered. I remember once a man in our town, Brickerhoff—he's a builder, a contractor—he asked Louis, he said what's all this study going to get you, you know, the practical value of it? Louis said it might not have any practical value, at least not as far as he could speak to, and Brickerhoff couldn't make head or tail of that. Just to find out, just to know for the sake of knowing, Louis used to say, just like you said now. He has great respect for you, David. He always spoke about you when he came home."

"Yes, I know, Mr Saxl."

"But you do for him, too. I know that. I was telling Mrs Saxl that. You've been very good, David, more than good, and we— People usually respect each other, it seldom works just one way."

"There's more than respect, Mr Saxl. We've worked very closely, all of us together. The people here really love Louis."

"I believe they do," Mr Saxl said; and after a moment: "I believe they do."

The light had gone almost entirely. Mr Saxl, peering through heavy glasses, could not even make out David's form as he left the window and picked his way across the room, moving slowly but with familiarity around and between the numerous objects in it, his cane hitting the concrete floor unevenly. By the door David stopped; his eyes were sharp; even in the dark he could see the panel of light switches, four in a row. He lifted his cane

and sought with the tip of it for one of them, found it and pushed it, as he had done many times coming into this room.

Mr Saxl glanced up automatically as the light came on, then down at his watch, after which he sat as he had been sitting for most of an hour—quietly, even a little stiffly, his hands on the table, his mind and body both obviously meant for other surroundings. His neat, mild appearance brought to mind the sound of the sprinkler on the lawn before dinner, the smell of the cigar on the front porch afterward, and all the patterns of circumspection. Circumspection, which had preserved him, looked through his glasses and spoke his words. The light made him silent; he wished David had not turned it on; still, it was almost time to go. And so he cleared his throat to speak again, to satisfy, in the few minutes that remained to them in this place which he would probably never see again, his most immediate worry over what had happened here.

"Tell me, David, do you think it was really unavoidable?"

Holding his cane out before him, turning it this way and that, David studied the tip of it and reviewed answers to this question that would serve without answering it. He looked quickly at the older man, who was watching him patiently, and in the same movement turned his eyes to the structure at the far end of the room. Toward this he now moved as Mr Saxl waited.

"I spent nearly four years working with Louis," he said, and his voice was stronger now. "Three of them here at Los Alamos and half that time right in this room—days, evenings, some of the whole nights. What he did the last time he had done many times before, time and time again. I've done it, too, several of us have done it. But no one as well as Louis, as skillfully—so carefully."

David looked back across his shoulder at Mr Saxl, and then moved on again toward the structure.

"I've sat in that chair you're sitting in or stood here, right here or over at that side, and watched him do this thing over and over. I never saw the beginning of a slip. Still, we all knew, all of us, Louis most of all, that something could go wrong. It was a risky thing, there was always this element of risk."

Just in front of the structure David stopped again. He was close enough to touch it, but he did not. He leaned on his cane and he put one hand to his head, and for a moment the exhaustion which had gone out of his voice seemed to come back in his body. Mr Saxl from his chair noticed this with something like annoyance. He was very tired himself, and the tired are not often moved by the tired. Moreover, David's gesture was made with a kind of purity and grace—an overflow perhaps from the disciplining of his lameness—which Mr Saxl associated with temperament and hence found embarrassing. He shifted his eyes to the structure, and tried to visualize what it was that had happened when his boy had stood where this one now stood, before they had taken him to the hospital room.

"But the answer to your question isn't what happened. I know what happened. I came down here that same night, after I heard. Records are kept automatically, Mr Saxl, in that box over there, some of them. I read the records and I did the experiment over again the way Louis had done it a few hours before. I know what happened. They won't let me tell you, for some reason known only to God and the generals. But please believe me it means nothing, it was only that element of risk, a technical matter. As to why it happened—well, that's another thing and a hard thing to explain, except—No, it was really unavoidable, Mr Saxl, things being what they were."

"Except, you said. Except what, David?"

"Except—I really meant nothing, Mr Saxl. I was just thinking of that element of risk again—in a different way."

"It might be no one can ever tell, although I think you have a feeling on it. Do you mind if I say I think you would be hard to know? Please don't misunderstand. My own son is hard to know in many ways. Perhaps the things that make it hard are what you respect. The others like him too, you say?"

From where he sat, Mr Saxl could make nothing of the cube-shaped pile which he understood to be the machine or equipment or whatever it was that had gone wrong in his son's hands. The framework table that supported it was familiar; in the office of his lumber yard back in Georgetown he himself had put together a work table that this one brought to mind. There were

familiar objects on the table—the pencils and the tools and the rest. But with the gray brick pile he could find nothing from which to start a thought; it had no front, or else it was all front, and so equally all sides; he could barely make out some of the lines of the edges of the bricks; chiefly, his eyes reported the unbroken smoothness of the surfaces; and this made his mind uneasy more than anything, this left him looking and seeking for a clue.

"Where did he stand, when you stood here as you said awhile ago?"

David had not heard the older man come up behind him; the words startled him; he turned his head quickly and then, more slowly, turned his whole body around until he was facing Mr Saxl.

"I think it would be better—" he started to say.

"No, it's better to know something at least. I wouldn't want Mrs Saxl here, or the girls, but men are different, David. Will you show me where he stood?"

David moved right against the front face of the structure; he leaned over the table top slightly and shifted his feet into a position.

"About like this," he said.

"What did he do then? What went on?"

"Mr Saxl—" David began. But Mr Saxl took a step forward and spoke again.

"What did he do? Tell me, David."

There was a very long pause, and then David answered him again.

"It's not going to be done any more, not the way it was. I don't think the Colonel told you, Mr Saxl, or if he did I didn't hear it—one of the things you should know is that nobody will ever do just this thing again."

David was moving away from the structure, turning as he spoke.

"That last time for Louis was the last for anyone, It should have been stopped earlier, of course. There'd been enough talk about it."

"I don't understand," Mr Saxl said, "I've got the hint of this

before, but I don't understand. Why did Louis do it that last time if it wasn't necessary?"

"Mr Dombrowski was using that word just yesterday," David said, looking at Mr Saxl carefully. "I don't know what to say to it—I didn't then and I don't now. It would be easier if you knew more about this—" he waved an arm rather generally, whether at the structure or at the whole room or at all of Los Alamos it was not possible to tell—"or if I could tell you things I can't. Still, Mr Dombrowski knows, he knows a great deal—you'd like him, Mr Saxl, you'd like each other."

The sound of an automobile penetrated the room, and David looked around him, and then at Mr Saxl, with something close to desperation.

"But you mustn't think it was just a meaningless accident that could have been prevented if someone had only thought to prevent it," he went on. "Maybe if a great many people had thought harder—millions of people, if millions of voices had been raised—then this, and not only this, but other things might— It was unnecessary like war is unnecessary, Mr Saxl—like war, which solves nothing and from now on will solve less than nothing—like that."

The sound of the automobile was louder now and growing. Mr Saxl, who had been looking at David steadily, glanced around him; David lowered his head, but raised it at once and again went on.

"And just the way that a soldier is hurt, in a war, Louis was hurt, in a war. That's the only way you can think of it, Mr Saxl—although it doesn't make sense, it makes a nonsense, but a familiar one—the sense is not familiar enough." He lifted his cane and pointed at the structure. "There is a moment when you're working that, just before an accident can happen— Or let me say that that is very impersonal, but Louis is a very personal person, and he knows the delicate network that the mind has made around the world, he might have—he has helped to make it. And he—" David stopped. Mr Saxl looked at his watch.

The lights from the automobile glowed for a moment through the windows; the rays swept the room as the car turned into the

clearing outside; the engine sound pitched up and then fell off to nothing; a car door slammed.

"It took this thing that happened to get you in this room," David said when he spoke again. "But just this once, for an hour, and by dispensation of the very highest brass. They sent a plane for you and Mrs Saxl and Libby, but next week they'd stop you at the gate. The war isn't over here. When it is, there won't be any place like this."

Mr Saxl had found his overcoat and was putting it on, struggling with the sleeves.

"They've been very good," he said. "They've done everything for us, that plane and all. Still, the war—you know, it does seem closer here than ever I knew it, even when it was going on, reading about it in the papers. That Colonel Hough, he's a nice fellow, though." Mr Saxl straightened up.

"Yes," David said, "Colonel Hough's a nice fellow."

"And so are you, David. I think I know what you're saying, some anyway. It's too bad, isn't it?—too bad."

The door to the room opened and a soldier's head appeared.

"Are you ready, doctor? Colonel Hough is here."

Colonel Hough came into the room quickly but not briskly, quietly but not morbidly so, nodded to David, went straight over to Mr Saxl, and did not try to avoid the subject.

"I've just come from the hospital, Mr Saxl," he said. "There is no change. You do understand that's all we can expect for a while? It is really hopeful."

Mr Saxl nodded, but not as though he had understood. "The doctors still think that Mrs Saxl and I—"

"Yes," said the Colonel. "Please believe me, I know how hard it is on you. But it would be harder if you went in. He is comfortable, there is no pain. Dr Berrain told you the absolute truth this afternoon."

Mr Saxl nodded again, this time as though he did understand. He sighed slightly, looked from the Colonel to David, and back again. He was smaller than the Colonel and, standing so close to him, looked almost shabby, for the Colonel was very trim and straight; his uniform was neither new nor too well pressed,

but it fitted him very well; he wore no hat, and his short-cropped hair and his strong, firmly held head spoke for strength and directness and responsibility. The skin around his eyes was crinkled with the intensity of his obvious eagerness to assume any burden that Mr Saxl might put upon him.

"Well," Mr Saxl said after a moment, "I suppose we'd better get back to the—Lodge?"

"Fuller Lodge," said the Colonel. "If you're ready." He looked at David, and they all began to move toward the door. "We inherited the Lodge and its name too when we built the site here. Did you know this used to be a school for boys? A man had it here for many years, boys from the East principally, wealthy boys. He didn't want to give it up, told the Army it wasn't for sale. Well—" they went through the door; the soldier was standing there; Colonel Hough gave him a little punch as they walked past him, and the soldier grinned—"we bought it anyway."

They stood briefly outside the door on the small porch. It was quiet, and cool, and wild. On both sides of the clearing in front of the building jagged boulders cropped out from the sides of canyon walls which rose sloping up into the night. Above the boulders trees took over, yellow and ponderosa pines, covering the walls with massed green going off into black; and high above the heads of the men standing there the trees reached the rim of the canyon and made a fringed edge faintly visible in the dark. A vague, sourceless throbbing sound could be heard, and the soft random chirping of the birds settling themselves for the night in the trees around. On the little porch they stood for a moment, finishing with the buttoning of their coats, and held perhaps by something in the large solemnness of the scene. Part of the prehistory of the continent lay brooding all around them, in this and other near-by canyons and ravines and arroyos. What they saw from where they stood had not changed much, or had changed only to renew itself, for many thousands of years. Up on the mesa to which they were now going a town had been built, with sidewalks and streets and many buildings and the beginnings of lawns. The building down here in the canyon was a part of it; the road connected it; a clearing had been made and in



the clearing now stood the Colonel's jeep with its headlights glowing against the boulders and the trees, and with the sound of its idling engine running back and forth between the canyon walls. But the town seemed a long way off, and the darkness was more impressive than the light here, and the quiet more noticeable than the sound.

"We bought it," said the Colonel, "and inside of a year we'd built a city. There isn't anything like it in the world."

They got into the jeep and the driver swung off onto the road, which curved out of the clearing and began a steep curving ascent up through the trees and among the boulders out of the canyon. The Colonel said something to the driver, and he looked back; as he did, the jeep was jolted by a small ridge of rock in the road.

"Watch it," said the Colonel, "you've got to keep your eyes open down here."

David grunted. "The sheer cussedness of nature, eh, Colonel?"

"The what? Oh, by God, that's right. That's one of our famous phrases, Mr Saxl. One of the scientists was tearing his hair one day over some ticklish problems and that's what he said—the sheer cussedness of nature." He chuckled. "Pretty good."

After a moment the Colonel turned himself around and leaned back over the edge of the front seat. "You know, you've got a very fine boy, Mr Saxl. Everybody here thinks the world of him."

"He was always a fine boy," Mr Saxl began, and then stopped as the high, tight, whining sound of an airplane going very fast came to them through the trees. No one spoke as it passed over and faded off, and then Mr Saxl continued. "There was a mail plane used to fly over Georgetown every morning. They've changed the route now, but it used to, and I used to take Louis down to the front porch with me years ago about that time. That's a funny thing to remember, isn't it? I had a little song I used to sing him, sitting on the porch. He was just a little boy then. He'd laugh and clap his hands when I'd sing him that song, and the plane went over."

The Colonel said nothing, but David turned his head and

looked at the older man, and after a moment spoke to him.

"What was the song, Mr Saxl?"

"That song? Oh, a silly song. I made it up. Just a silly song."

"There's a little song I've heard Louis sing once in a while. He said you used to sing it to him. About a wagon coming."

"Does he? He still remembers it? It was years ago."

"Won't you say it?"

"Yes," said Colonel Hough. "I'd like to hear it, too."

Mr Saxl did not answer. The jeep jolted, the engine sound beat against the canyon walls. And then he began to move his head from side to side rhythmically; and in time with this movement, looking now at David, smiling a little with embarrassment, he sang.

*"Here comes the vegetable wagon, the vegetable wagon, the vegetable wagon,*

*Here comes the vegetable wagon, to bring little Louis a—"*

"Right then," he said, turning to include Colonel Hough in this explanation, "I'd wait a little and Louis would guess. He'd say watermelon, or cauliflower, or tomato maybe, or something. But whatever he'd say, I'd shake my head and then say something else, like parsnip or cantaloupe. I must have sung it a thousand times, those mornings and other times."

He chuckled, and turned away to look at the trees banked solidly now.

"'Here comes the vegetable wagon,'" he sang softly, "'to bring little Louis a—'"

## 9

In consultation with each other, Berrain, Morgenstern, Pederson, and some of the other doctors had decided to call Dr Beale out during the afternoon because, shortly after his family had left the hospital, Louis had developed a rather severe ileus, or in-

testinal obstruction. It had not been unforeseen; it had not been expected quite so soon, however; it involved only the upper abdomen at the time the decision was made to bring Beale out, but not long after that the lower abdomen was involved, too. The vomiting began again. Enemata and rectal tubes were tried, but they provided no relief. There was nothing to do but to start gastric suction through a nasal tube; the apparatus for this was brought into Louis's room, taking its place alongside the apparatus for the drip injections, the troughs for the ice, the light stand for the photographer, and other odds and ends that had accumulated.

The gastric suction provided instant relief. Moreover, the temperature, pulse, and respiration curves did not rise. There were still no signs of spontaneous hæmorrhages, and there was no evidence of the liver breakdown and the jaundice that the doctors feared almost as much. The blood counts were taken, checked, and recorded, but in fact no one paid more than passing attention to their testimony. They were down about as low as they could be, and they were beyond anyone's intervention. By the end of the afternoon—at about the time Theresa arrived from Santa Fe—things were pretty much at a lull, as they had been when Berrain had gone for his drive, although at a lower level.

But for this very reason the doctors and nurses were, one and all, more dispirited than they had yet been. The things they could prevent or treat were almost all past; the things that were still to come were things, by and large, for which they could only wait. If jaundice developed, it would be a terminal jaundice: they could relieve it a little, but they could not affect that deterioration of the liver which would lead to it. If the spontaneous hæmorrhages began, perhaps Briggles's dyes would work, although perhaps not; in any event, what then? And when the temperature and the respiration and the pulse began to move to higher figures—nobody said if, and nobody even thought if—there would be nothing at all to do, except to draw the curves. A time lag had followed the establishment of the dosage and the precipitous fall of the white blood count; during this time

lag not everything the eye reported or the mind analysed or the heart knew had been given strict attention. But the lag ended on Saturday evening, the twenty-fifth of May. And then a little later, as though there were some communication between the world of the events of Louis's body and the world around him, his temperature began, at last, the slow, inexorable rise.

About an hour and a half after Theresa arrived at the Lodge, David came up from the canyon with Mr Saxl and Colonel Hough. The word from the hospital then—from Charley Pederson, specifically, standing by himself at the foot of the little stoop in front, smoking a cigarette as the jeep drew up—was that Louis could not be seen, certainly not just then, possibly not at all during the evening. He gave vague and gentle reasons to Mr Saxl; but as the Colonel walked across to the Lodge with him, Pederson explained to David that the odour in the room, since the gastric suction had been going on, was—

"Well, we may have a trial without it later on. Maybe with the relief he's had he can manage without it. I don't know. We'll have to see."

"His girl should be here by now," David said. "I'll have to get over to the Lodge. She'll want to see him."

Pederson dropped his cigarette. David poked at it with his cane and ground it out.

"They were going to be married in a month."

Pederson said nothing. David continued to grind the cigarette.

"And if he can't manage without it, what do the doctors propose? That he die unattended?"

"No," Pederson said. "If he can't manage without it, that creates a situation which we'll have to meet as best we can."

"How long, Charley?" David asked after a moment. He peered up at Pederson. The balance had swung a long way since Thursday, when Pederson and David had last stood together in this same space.

"Maybe two or three days."

For about an hour after he had found Theresa and had taken her away from the Saxls, David was able to keep her from the hospital. They went to his small room and sat there; they walked;

they stopped in the drugstore and had sandwiches in place of the dinner that neither had eaten; then they walked some more. At the end of this time Theresa knew everything important, including Charley Pederson's last estimate.

She insisted on going to the hospital. If they could not see Louis, they could at least be in the same building; if they could not stay there, they could stand outside; if they could not see him at once, possibly they could see him later—if they were there. Theresa was reasonable and insistent and did not raise her voice. David thought that she was hoping against hope, as he had for a time, as indeed all of them had. He thought that this was the best state of mind for her to have; he couldn't have it any more, but there was the slightest tinge of reassurance, the smallest turn away from finality, in Theresa's having it. And because his illusion served his need, it took him longer than it should have to discover that his assessment of Theresa in fact was an illusion, that she had no more hope than he had. He used an "if." And she turned on him bitterly.

"Don't talk that way! Don't make it happen twice!"

She did not press him much, as Mr Saxl had, about the accident itself. All her thoughts and feelings seemed to centre on Louis in his hospital room; she said nothing at all of the seven years in which they had seen each other nine times, nor of the year before that when they had seen each other constantly, nor of the future. She wanted to know about the doctors and the nurses, and what David and Louis had talked about during David's many visits to his room, and what David had read to him, and what he had said. With what seemed to David almost a clinical curiosity, she asked about all of the effects of the radiation sickness on him, and listened silently and darkly to as much as he would tell her. But if he tried to cut something short, or turn away from it, or soften it with phrases that said nothing, she spoke to him at once.

"David! You're not telling me! What happened then?"

Even so, he managed to hold some things back.

Sleeplessness, grief, hours of crying, too little food, and whatever it was that was served by this fixed determination to learn

all the details of Louis's dying had combined to give Theresa's face the appearance of a flawless, subtle mask. The expressions that moved her face, coming and fading, shaded only slightly the complicated intensity of expression that came just from the drawn flesh over the fine bones. Her hair seemed darker, her eyebrows stronger, her eyes larger and deeper than they really were. David stole looks at her and was seized by the oddest notions. He wanted to touch her softly with his hand, or trace and soften the outline of her eyes, or softly with his finger touch the edges of her mouth. But then a look indescribably soft would emerge imperceptibly from the intense expression, and just as imperceptibly disappear. She walked and sat usually with her head held forward, and her long hair sometimes curved around her face; he wanted to reach out, and touch it, and bring it back. He did none of these things. They walked and talked, and at about eight thirty they finally got to the hospital.

Theresa agreed to wait downstairs while David went up to see the doctors. He took her to the conference room, but the door was closed and he could hear voices inside. Then he took her to the little cubicle where he and Wisla had sat on Thursday working out their estimations of the radiation dosage. She sat there and he went on upstairs. In two minutes he was back.

"They say no. They say, please not tonight. I think it would be better, Theresa."

She stood up.

"No, I have to see him, if I only just see him, but I have to see him."

David looked at her silently.

"Will you take me up there?"

"Theresa, I can't take you past the doctors."

"Will you take me to the doctors?"

He walked ahead of her up the stairs, and at the top of the stairs he motioned to Pederson, who was talking to Betsy down the corridor the other way from Louis's room. A night nurse was sitting outside the door there.

Pederson came over, and Betsy followed him.

"She wants to know if she can't just look in on him. I'm sorry. This is Theresa Savidge. She—"

"I know," Pederson said. "But it's not a good idea tonight."

Betsy was staring at Theresa, but she shook her head, more or less automatically.

"If he's asleep I'll not disturb him," Theresa said. "If he's awake I'll only let him know I'm here. Surely that wouldn't hurt—if you're afraid for him. If you're afraid for me, please don't be."

Betsy turned to look at Pederson. She considered this an effective statement; it proved that Theresa had her emotions under control at the moment, even though she might lose control; there was always the risk of that. Then Betsy turned back to look at Theresa again. Theresa was standing very straight, and quite involuntarily Betsy stood straighter herself. Her first sight of Theresa in the corridor had hardened her; she knew who Theresa was without being told, but she shouldn't have come upstairs; besides, she was dressed inappropriately, she had too much colour in her skirt and blouse, although it was a pretty skirt. But as Betsy looked now she ignored the skirt and looked into Theresa's face and her hardness constricted to a knot and disappeared; she saw there much the same as David had been seeing, and she reacted much the same way, and then she began to remember the letter, which had moved her so much, and just the thought of it, now in the presence of its writer, moved her again. Oh, she thought, let her go in!

Pederson looked at David as though he sought a signal. But Theresa's face really told him more, and in fact enough. For the briefest moment the thought occurred to him that he might just refer this to Berrain or Morgenstern, but he had spoken even before the thought had quite formed.

He said, all right, she could go to the door of the room; Louis almost certainly would be asleep; if not, he might not recognize her; generally he lay looking away from the door and she was not to do anything to attract his attention; did she understand the situation?

"Yes," she said.

He studied her for a moment.

"Come along after me," he told her, and walked towards the room.

He stopped where the night nurse was sitting, and bent over, whispering something to her. Then he took two light steps to the door; it was open an inch or two. He pushed it back a little way and looked in. After that he stepped back and motioned to Theresa, and as she came forward he walked on past her and down the corridor to where David and Betsy were standing.

They saw her move slowly and very quietly to the doorway, and stop just outside it. As they watched, she stood motionless for what seemed like a very long time, looking into the room, and then she leaned forward a little. They were standing perhaps twenty feet away from her, and her face was in nearly perfect profile from where they stood. And in this position it was difficult to tell when the smile on her face had come there; but each of them after a few moments saw that it was there, although it was a small and gentle smile and affected the planes of her face from the side hardly at all. She continued to look into the room, and then she raised her fingers to her lips and blew a kiss. She did this again, and then she did it a third time, and after the third time she held her hand before her for a moment. She turned quite quickly then and came back along the corridor. Her eyes were glistening, but she walked steadily; a trace of the smile remained on her face, perfectly distinct in just the way that a voice heard from a long way off in open air is distinct, but too faint to carry its meaning, and by the time she got to where they stood the smile had gone entirely.

She nodded her head and said "Thank you" in a low voice to Pederson and Betsy; she went directly down the stairs, and David followed her.

From the front of the hospital they walked around to the end where the pond was, under the yellow-glowing light, and by the pond to the street that ran along the high steel fence of the Technical Area. Floodlights illuminated everything there; the guards stood by the gates; windows shone in the buildings,



mechanical sounds rose and fell and mingled, a few figures could be seen crossing the spaces between buildings. Theresa and David walked along the opposite side of this street—sheer randomness had put them there. They walked west and finally Theresa stopped just before a barracks-like structure with a porch across the front of it; the sound of a juke box came from inside.

"What's this?" she asked David.

"The Service Club," David told her, pointing with his cane to a sign on the side of the building. "The local night club."

"Can we go in?"

"We can, but it's a noisy place Saturday nights. Do you want to?"

Theresa said she thought she did, and they went inside. They couldn't find an empty table, so they stood at one side of the room for a while. Then David went over to a little counter by an enormous refrigerator and came back with two bottles of beer. The juke box played steadily, but a group of about a dozen people, sitting together at one end of the room, from time to time would break into a song, drowning out the instrument. There was no room, the place was getting fuller all the time, and after they finished the beer they left.

At the entrance to the Lodge David said he would stay with her as long as she liked or would leave her, whichever she wanted him to do. She said nothing for a moment; she stood there, and seemed to look around i . . . Then he saw that she was trembling, and just as he noticed this she saw that he had noticed it.

"Oh, David!" she cried, and moved against him.

He held her while she wept and shook, and after this storm had passed he sat with her in the dark of the terrace while she talked about the past and the future that she had not dared to mention earlier.

**10**

Sunday's air was the softest of air and the day was a day of sunny glory. Spring was in full flood that day, across the mesas, up and down the canyon walls, in the calls of birds and the mists of flowers in the sheltered fields; the sky was a limitless glow of light and the snow made a dainty fringe on Truchas. The children were out, as they always were, but their games seemed bigger and their voices clearer. By nine o'clock all of the horses had been taken from the riding-stable. By ten o'clock the soldiers at the main guard house had recorded the heaviest outbound traffic of the year.

But before the riders and the fishermen and the picnickers had started, Theresa had left her room at the Lodge and walked quickly across to the hospital. She went up to the second floor without attracting any attention from anybody. She recognized Betsy as she walked slowly down the corridor towards Louis's room, but no one seemed even aware of her until she was almost there. Then Betsy looked at her, looked away, and quickly looked back again, shaking her head. A doctor whom Theresa didn't know stepped out of the little group by the door and pointed out a chair beside a desk a few feet back along the corridor. He said nothing; the others were talking in very low tones; and in this setting she was afraid to speak.

For fifteen minutes Theresa sat. She heard and saw nothing that meant anything to her. The doctors came and went. Betsy went by, tight-faced; but a few feet past Theresa she turned and came back and stood in front of her. Theresa got up from her chair; Betsy only backed off a little and continued to look. She was moving her head, neither nodding nor shaking it but just moving it, or letting it move in small erratic motions, in little bobs and jerks; her mouth was drawn tight and her whole face was a confusion of expressions, no one of which predominated. She did not seem about to cry and she did not seem about to speak, and she only stood there, her head moving or trembling in this strange way and her eyes full of pain. Then she turned

and walked away; and Theresa, trembling herself from that look and all it told, sat down again. She gripped the chair arms and sat looking straight forward. And thus she was sitting when Louis's voice, loud and sharp, broke from the room.

"The hate! *The hate!*"

This was the beginning of a delirium which went on, in fits and starts, for most of Sunday. The eye of the hurricane had passed beyond him and left him to the storm, heightened and made terrible by the stresses of his body and the end of all controls. He talked coherently for minutes, then incoherently for an hour; lapsed into silences, then droned, then called. As soon as it began Theresa jumped from where she sat and ran to the room. Nobody stayed her. She went to the bed and stood there looking down at him, listening. She put her hand on the covers over his legs and spoke to him softly, but there was no sign that he heard her. She leaned forward and rested her hand against his breast, bare and red, and spoke again, and still he gave no sign that he heard her. His eyes stared at her, moved away, returned, and turned away again. After a few minutes of this Berrain took Theresa gently by the arm and tried to get her to leave, but she shook him off. Once, as she simply stood there, stroking the shape of his legs, he quieted and looked up at her.

"Oh, my darling, those roads are ghastly silent now!"

But before she could say a word to this, he was off on something else. Much of what he had said to Wisla two days before, he said again, coherently and incoherently; and much more that went along with that. But he spoke at almost equal length, and with apparent pleasure, of some things of which no one present knew a thing—of an old cottonwood tree (a place to be or go), of Skip (a friend), of the moons of Jupiter and Descartes's vortices, and of putting the picture together.

"That's good, Skip, you get a lot out of that," he said earnestly.

His parents came over, and his sister. Wisla came, stood and listened gravely, left, and came back again. David came and went and came and went.

There are sounds that come in across the great interstellar spaces, hisses and crackles from remote and sometimes not even

detectable bodies. It is quite certain that they are nothing more than a kind of radio signal generated by matter in turmoil, a cosmic gibbering. No one has found any semblance of meaning or pattern in them; they are simply sounds, or seem so, coming in from a long way off, puzzling, not to be answered. Most of what Louis said during this Sunday was like that. He disclosed not a single nuclear secret.

Sometime during the afternoon he fell very quiet, and out of this quiet after a while he asked for Theresa. At that moment she was lying on a bed in an unused room near by. She went in and stood by the bed again, as she had been doing most of the day. He looked at her, and shook his head slightly. She spoke to him, over and over, but he said nothing now. She looked up at Betsy and the doctors to see if it was all right for her to sit on the side of the bed, and they signified that it was, meaning that it made no difference. So she sat there for quite a long time.

In the wreckage of things, whirling like the driftage of a river trapped and twisted in an eddy after the storm has passed—so they were together for about an hour. After that he slipped off into a deep coma. His temperature had passed a hundred and four degrees; all the other signs were consistent with what the doctors knew.

The coma lasted through Sunday night and all of Monday and most of Monday night. Early on that night Dr Beale moved over from the room in which he had been staying to a small room which had been put in readiness for the post-mortem examinations down on the first floor of the hospital, not far from the room which had been converted into Dr Novali's laboratory. Early Tuesday morning Louis died. It was still dark. The sun had not yet risen even beyond the great plains to the east, and Truchas was invisible. In all the night around there was only the brightness that came from the floodlights in the Technical Area, where, behind the high steel fence, the secret work went on.

**II**

Going south from Santa Fe one road slants off west to Albuquerque and one road, slanting east through a desert land, sends an offshoot out to Lamy, twenty miles from the town it serves. Lamy is a few houses, a few sheds, one or two stores, and the Santa Fe Railroad station. The station house is a small brick waiting-room which does not vary, except for the wooden sign, from the structures at a dozen other minor stops along the Santa Fe tracks. The platform is wide and smooth and long, and is indeed the noblest work in Lamy, except when the muttering Diesels roll in, as they do or used to do three times a day, pulling long trains of polished cars behind them. From the platform the trains are visible for a long way west; going east they lose themselves quickly in the abrupt hills that bring the Sangre de Cristo range, falling off from Truchas, to its southern end.

At a little before noon on Wednesday morning an Army ambulance came slowly along the road into Lamy; it passed the houses and sheds and stores, and just before the station it stopped. The ground lay flat and open on either side of the little waiting-room; two or three cars were parked here and there in the space, although no people were visible on the platform. The three soldiers on the front seat of the ambulance seemed to be holding a conference. For several minutes the ambulance stood and they talked back and forth. Then the car moved forward slowly, drew up beside the station on its eastern side, and came to a stop. The soldiers got out. One walked out onto the platform and looked both ways along the tracks. The other two stood for a moment beside the ambulance, then they both lit cigarettes, and both together walked back to where the stores and houses were. The hot sun beat down and the roof of the ambulance gave off a radiant shimmer of heat.

Nearly half an hour passed in quiet, heat, and motionlessness. The soldier who had stayed at the station occasionally went out again to the platform's edge and studied the tracks, although they were as visible from one side of the platform as they were

from the other. Once or twice he went into the waiting-room and at once came out, for there was nothing there. Most of the time he leaned against the front of the ambulance and read a newspaper.

Then an Army staff car came slowly through the Lamy street and into the parking-area. The two soldiers came running back. The staff car drew up beside the ambulance, and Colonel Hough and an Army captain got out of it. Another car entered the area; this one was an ordinary sedan; it came to a stop just to the west of the station, and nobody got out of it.

After a minute or two Colonel Hough himself stepped onto the platform and peered west. From a great distance away, as though in answer to his look, came the faint bellow of the horn of the Chicago train.

He went over to the sedan, walking slowly, and when he reached it he simply stood there, saying nothing. But the soldier driver of the car at once jumped out. He opened the rear door on his side, took Mrs Saxl by the arm, and more or less passed her on to the Colonel. He did the same with Libby, and finally with Theresa. On the other side Mr Saxl stepped out and stood blinking in the sun. David joined him.

The horn bellowed again. The soldiers extracted luggage from the rear compartment of the sedan and took it out to the platform and assembled it there. For a third time the horn bellowed and now the nervous muttering of the Diesel, slowing for its stop, was a distinct sound; everyone looked west; the train gleamed and glinted under the hot sun; nobody said anything; except for the soldiers, there was a general movement out across the platform toward the tracks; the soldiers came together by the ambulance and stood waiting.

It had been Colonel Hough's idea that, if things were planned in advance and handled properly, they might be able to get the coffin on the train after "the family" and thus avoid embarrassments and griefs which, he felt, would otherwise be unavoidable. To this end the Santa Fe Railroad had been consulted by officers of the United States Army speaking with authority, and the soldiers had been coached. Pursuant to the plan, the soldiers

by the ambulance made not a move when the train stopped before them. Pursuant to the plan—which, however, not everyone understood or was even aware of—Colonel Hough at this moment began to exercise little tactics of his voice and body, all designed to get his charges on the train. But at this moment Mr and Mrs Saxl, and Libby, and Theresa, and David, and then the Army captain, and then several other people standing near, and finally Colonel Hough himself, simply turned to face the ambulance, and stood, and waited.

But the soldiers, coached for what they had to do and trained never to do otherwise, waited, too. And the train waited. Under the burning sun again there were only quiet, heat, and motionlessness. Who could have foreseen such a perversity? How the hell did this get so goofed up? Colonel Hough thought desperately.

At last, quietly and with military bearing, Colonel Hough walked across the platform to the ambulance and said something softly to the soldiers. They opened the ambulance doors immediately. There was a baggage truck beside the ambulance, and one of the soldiers started to move this into position. But Colonel Hough shook his head and stopped him. Counting the soldiers from the ambulance and the two soldier drivers, there were five. Colonel Hough made himself the sixth. Together they got the coffin out of the ambulance; walking very slowly, they carried it out onto the platform, and along the platform beside the train to the baggage car.

When the Colonel got back to the rear of the train the others had gone in. The Army captain had taken over the Colonel's shepherding functions, and would continue them for all the trip ahead. David was standing by himself on the platform; he had a faraway look on his face, and his eyes were wet. They stood there together, watching, as the train began to move, then gathered speed, then began the long curve which would take it through the last of the mountain barrier before the great plains stretching eastward.

"Will you ride back with me, Dave?" the Colonel asked at last.

"I think I'll take the fancy limousine, if you don't mind," David said.

The Colonel nodded his head.

"OK, fellow," he said; he gripped David's arm, then patted him two or three times on the back. They walked together across the platform, and separated for their cars.

"I don't suppose you'd like to see the paper, doctor?" the soldier driving David's car asked after a few miles.

"Sure," David said. "Let's see it."

The soldier handed it back, and David looked at it abstractedly for a few minutes. It had been folded to the sports page, and he read some of that. Then he put it down and looked out of the window for a while. Then he picked it up again and opened it to the front page.

The story of the accident had a prominent position on the front page, under the heading "Atom Bomb Scientist Dies; Six Saved." The nature of the accident was made reasonably clear; it had involved an experiment in which radiation was released in a brief flash; the experiment had been an important one in the development of the atomic bomb, although details concerning it could not, of course, be released. But most of the story concerned itself with the heroism of the young scientist who—at the cost of his own life, as it proved—tore the experimental structure apart and thus saved the lives of his colleagues.

Again David put the paper down and looked out of the window. By this time the car had passed through Santa Fe, had taken the long hill with which the road north from there begins, and was out on the floor of the valley. There was hardly a sign of life to be seen, except for a few road runners and the stunted tree-shrubs, brown with the faintest cast of green in them. The mountain ranges ran quite parallel to each other now on either side of the road, and the feeling began to grow on David, as it often did when he took this road, that something was bearing down on him, that something grooved and channelled a person, so to speak, when he took this road through the ancient land.





